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The Fifth
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1978 Proceedings

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**PROCEEDINGS
OF THE
National Security
Affairs Conference** (5th)

held at
JULY 17-19, 1978
NATIONAL DEFENSE UNIVERSITY
on July 17-19, 1978.
**EQUIVALENCE,
SUFFICIENCY,
AND THE
INTERNATIONAL
BALANCE**



- Panel 1—Essential Equivalence and the Strategic Nuclear Balance
Panel 2—Perceptions of Conventional Force Sufficiency
Panel 3—The US-Soviet Military Balance and Nuclear Proliferation
Panel 4—Economic Resources and the International Strategic Balance
Panel 5—Domestic Priorities and the Common Defense

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We will match, together with our allies and friends, any threatening power through a combination of military forces, political efforts and economic programs. We will not allow any other nation to gain military superiority over us.

President Jimmy Carter, March 17, 1978
Wake Forest University, North Carolina

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PRESIDENT'S FOREWORD

In recent years, the themes of National Security Affairs Conferences have been chosen to reflect principal issues and concerns confronting the national security planning community. These subject areas have proved of considerable interest, not only to those formally within that community, but also to others in the society at large, whose viewpoints and interests intersect with ours in the broader forum of public dialogue. In years past, for example, we explored the continuing international strategic relationships both in their cooperative and in their competitive aspects, trying to develop fresh perspectives based on sharing the wide variety of outlooks of our conferees.

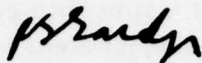
The success of these efforts encouraged us, this year, to approach key elements in the central relationships between the United States and the nations of the rest of the world which will dominate our outlook, policies, and strategies for many years to come. We looked at these relationships from five viewpoints, in a global setting, to evaluate the position of the United States in terms of Equivalence, Sufficiency, and the International Balance. We addressed the dominant issues imbedded in our strategic nuclear posture; we examined the credibility of our NATO strategy and the constraints of parity on our conventional posture worldwide; we evaluated the potential impact of nuclear proliferation on the essential features of our strategic outlook; we explored the economic implications of the current thrust of our global policies; and we attempted to assess the domestic factors which bear on our ability, as a nation, to remain steadfast in our pursuit of national security goals.

The discussions in our five panels were exceptionally fruitful. The issues themselves were explored with great acuity by highly qualified and imaginative thinkers, of all persuasions and backgrounds. The concerns they voiced and the initiatives they suggested in some cases may be controversial, but they are perceptive in getting to the heart of the issues themselves. It is, therefore, a distinct pleasure to distribute this volume, which includes the background papers prepared to provide the framework for the discussions, the summaries of the discussions themselves, and the thoughtful syntheses of our Panel Chairmen.

Here at the University, we strive to prepare selected military and civilian professionals for high-level assignments in the formulation and execution of national security policy. At The National War College, we focus on national security policy formulation and strategy; at the Industrial College of the Armed Forces, we emphasize the management of resources in the interest of national security. But we recognize concurrently that as a university we have an additional role, beyond the educative function, to contribute to the formulation and generation of new perspectives, concepts, and knowledge. To this end, our University Research Directorate sponsors a group of government scholars whose work reaches out to the broader community within our society concerned with national security. Concurrently, through our National Security Affairs

Institute, we provide the kind of forum, exemplified in this Conference, in which scholars, business leaders, and other knowledgeable professionals share their views with officials in the national security policy structure.

We at The National Defense University want to express a special note of thanks to Secretary McGiffert, and members of his Office of the Assistant Secretary of Defense for International Security Affairs, for the vital cooperation necessary to make the Conference possible; and to extend our sincere appreciation to all participants for making this Fifth National Security Affairs Conference an enriching experience for us all.



R. G. GARD, JR.
Lieutenant General, USA
President

AN OVERVIEW

Equivalence, Sufficiency, and The International Balance

In past years, the Annual National Security Affairs Conferences have addressed aspects of the continuing international strategic relationships as centerpieces in examining both competitive and cooperative elements in the crucial issues confronting the national security planner. Last year, instead of treating a single issue, the conference examined the interrelationships between strategic and regional policies, between economic and political issues, and between domestic and foreign policies.

Continuing the pattern begun last year, the theme for 1978 is even broader in scope since it addressed the implications of parity and essential equivalence across a spectrum of five important national security issues. The five panels took measures of strengths and weaknesses in the fundamental relationships of essential equivalence and strategic nuclear balance (Panel 1); conventional force sufficiency and overall balance (Panel 2); strategic balance and nuclear proliferation (Panel 3); economic balance in estimates of essential equivalence (Panel 4); and, the effect of domestic priorities and perceptions on strategic balance (Panel 5).

In keeping with the policy-oriented purposes, the 1978 conference brought together a select group of scholars, businessmen, decisionmakers, and observers drawn from both public and private life, representing wide-ranging viewpoints, interests, and backgrounds, to explore the policy issues within the five subject areas. This overview introduces and summarizes some of the materials contained within the *Proceedings*, although neither the summary nor even the panel reports themselves can fully capture the intensity, creativity, and thoughtfulness of the discussions during the 3 days of the conference.

The *Proceedings* contain a foreword by General Gard and sections which address the activities of each of the five working panels. Each panel section consists of the Panel Chairman's Plenary Session Summary, the Rapporteur's Report of panel discussions, and the full text of the two papers prepared as frameworks for each panel discussion. Also, closing remarks by Assistant Secretary of Defense David E. McGiffert are presented at the end of the Panel 5 section, followed by biographical information on each panelist.

PANEL 1. ESSENTIAL EQUIVALENCE AND THE STRATEGIC NUCLEAR BALANCE

Essential equivalence is the essence of established US strategic nuclear policy. It entails the maintenance of conditions such that Soviet strategic nuclear forces do not

become usable instruments of political leverage, diplomatic coercion, or military advantage. Nuclear stability, especially in a crisis, must be maintained. Essential equivalence policy further requires that any advantages in force characteristics enjoyed by the Soviets are offset by US advantages in other characteristics. Perceptions of US posture must not be seen as inferior in performance to the strategic nuclear forces of the Soviet Union. This working group set out to translate the policy of essential equivalence into useful planning criteria for strategic forces. It focused on the role of Allied and Soviet perceptions in defining essential equivalence and on the implications of policy for the United States, the Soviet Union, and our Allies.

Agreeing at the outset that there were no absolute measurements of balance, the panel tried rather to determine what criteria or force characteristics would satisfy the panelists themselves if they had the decisions to make. Divergent views were expressed ranging from an attitude that present forces were more or less adequate but the problem was actually the political one of controlling risks arising out of political competition, conflict, and from the arms race, to an expression that the United States should structure forces so as to be able to deny victory to the other side as a final outcome of nuclear war. Another view held that the national leadership should predetermine a set of targets, then procure and deploy forces capable of destroying them. One view held that beyond the military approach we must move in the political arena to convey the impression of momentum and willpower.

The panel took note of the conceptual gap in determinations of essential equivalence and took the view that the United States emphasized static qualities and equilibrium while the Soviets used a more dynamic concept of forces in movement and an aim of victory in nuclear war. This led to a discussion of the desirable characteristics of American strategic forces, concluding that they must be highly survivable with no gap in either counterforce or countervalue capabilities. It was also held that there must be a display of will and commitment through the undertaking of new programs.

Since perceptions of equivalence underlie actual force capabilities, the panel set out to explore the subject. Agreeing that indeed the era of parity affords the Soviets a feeling of more freedom of action at lower risks and recommending a further exploration of this area, the panel concluded that essential equivalence may have led to a multiplication of instabilities rather than an increase in stabilities. Growing gaps in the concepts of the two sides about nuclear war; growing gaps in capabilities—particularly in counterforce strikes; growing uncertainties about the behavior of either side in a crisis; and growing European uncertainties based on perceptions of technical advances by the Soviets and unease about American resolve, were factors which led to specific recommendations by panel members for weapons systems improvements.

PANEL 2. PERCEPTIONS OF CONVENTIONAL FORCE SUFFICIENCY

To the national security planner, defining conventional military sufficiency and evaluating General Purpose Force capabilities are fundamental issues and complex problems. This working group set out to analyze the implications of conventional force sufficiency on the NATO region for the ground and air forces function, and the global implication of sufficiency in maritime capability. Panelists examined the elements of conventional force balances and the linkage inherent in such balances and assessed the coalition posture in Europe, the projection capabilities required to constitute a sufficiency of force at sea, and the political constraints inherent in current force posture trends.

At the outset of discussions of the relationships of forces between NATO and the Warsaw Pact nations, it was noted that the existence of strategic parity has heightened sensitivity to the relative balance between theater nuclear and conventional forces in Europe with a tendency, on the part of the European NATO countries, to prefer "comfortable insufficiency" of conventional forces to better insure deterrence is based on US strategic forces.

In looking at theater nuclear forces, the panel noted recent Soviet advances had created perceptions of insufficiency. This poses, at the least, political problems—particularly for the FRG (Federal Republic of Germany).

The panel agreed that perceptions of theater nuclear insufficiency must be a factor in US decisions and suggested reductions be avoided until the political problem is resolved. Some then suggested alternative solutions might include psychological reassurance through diplomatic or political initiatives. Hardware solutions for political, if not military reasons, raise the caveat that the system not substitute for US strategic forces. It was recognized that a weapons system on the ground in-theater held the greatest political assurance. Even though no one argued theater nuclear weapons could alter a deteriorating conventional situation, the panel held that the United States should act to restore perceptions of sufficiency.

In turning their attention to conventional force sufficiency, the panel agreed it was not at hand but not out of reach. There was general acceptance of a proposal whereby inadequacies on the Central Front could be made up through splitting active units on the front and filling manpower shortfalls with reserves or territorials. Whatever the solution, the panel agreed it was an issue which Defense planners must address.

When the panelists addressed conventional force sufficiency in the context of US policy objectives and force requirements in places other than Europe, they debated first whether military operations envisioned in current half-war strategy guidance were viable from the standpoint of political support. Most panelists felt domestic and allied support would be forthcoming only if action was in furtherance of and important to the economic well-being of the United States and its allies. There was general belief that the threshold of commitment had gone up since the Vietnam conflict.

In discussing Soviet intervention outside the Eurasian land mass, the panel used the model that the Soviet Navy holds a defensible posture in order to permit insertion of ground forces while Soviet land-based aircraft attempted "preclusive intervention" without similar scale US intervention. It was the panel's view that a stable US base structure gave us greater access and political leverage in a crisis to deny avenues of strategic access. Some panelists suggested our naval response had been tardy. The need is to be first on the scene both to deter Soviet activity and allow for additional options.

The panelists developed a scenario of intervention to test adequacy of intervention capability. They concluded as follows: Airborne forces are essential for quick reaction. Proper training and equipment for particular environments are necessary. Sustained intervention requires carriers and Marine forces. The projection capability of the Soviets is not superior. Lastly, the important role of Allies may require change in arms-sales policies.

PANEL 3. THE US-SOVIET MILITARY BALANCE AND NUCLEAR PROLIFERATION

Discussions of future proliferation are inherently speculative, yet the possible evolution of regional antagonisms and changes in military balances which could result from independent nuclear capabilities, require serious attention from national security planners. This panel examined the effect of proliferation on US-Soviet strategic balance, US antiproliferation policy, the activities of nuclear weapons states (NWS) other than the United States and the Soviet Union, and the prospects and implications of further nuclear proliferation. Central focus was given to those states most likely to seek an independent nuclear capability in the near future. Finally, the group explored the possible effects of independent nuclear capabilities on US national security interests.

In answering whether proliferation would have a strong effect on US-Soviet strategic balance, the panel found that in the short term—5 years—no likely candidates for proliferation, in terms of motivation and capability, could be expected to have a profound effect on that relationship. In the longer run of 10 to 15 years, major powers, specifically Japan and the Federal Republic of Germany, could go nuclear with strong consequences for the central strategic balance. The panel viewed a nuclear Germany or Japan unlikely, absent major mistakes or major weaknesses on the part of the United States, but could not rule out the probability entirely.

The panel agreed that a relatively high priority for a nonproliferation policy was justified by elements affecting central strategic balance, elements affecting other military security interests of the United States, and elements which affect the broader political interests of the United States. Looking first at the effects of proliferation on central strategic balance, the panel felt that even though a nuclear Germany or Japan was a low probability, the consequences were sufficiently grave to heighten requirements to protect against them. Similarly, mistakes by the United States in dealing with countries other than major powers could set off proliferation linkages which would eventually affect central strategic balance. Nuclear proliferation in Korea and its effects on Japan were cited as a possible example. In looking at other military security interests, the panel felt that the heightened insecurity and increased risks of human error implicit in any proliferation added a dimension of danger to any military relationship. Concern was also expressed over risk of possession by non-state or quasi-state entities which lacked the restraint of ordered societies. Lastly, in a discussion of the broader political interests, the panel agreed proliferation could affect our interests in a region through either "decoupling" or "deepening" involvement with a new proliferator. In the first instance our influence over events would be significantly lessened; in the second instance risks and uncertainties would be increased, depending on the depth of our commitment, but so also would our control over the situation likely increase. When proliferation was examined from the Soviet point of view, the panel found East and West shared a set of common interests and, predictably, common responses. Close and responsible US-Soviet cooperation in the Nuclear Suppliers Group was cited to buttress the conclusion.

The panel developed certain cautionary conclusions in evaluating current policy. There was general consensus that the objective of nonproliferation should be phrased in terms of slowing the rate and managing the process, with the caveat that too much flexibility would lead to failure to deter proliferation. While agreeing that no single solution existed to prevent proliferation, the maintenance of effective alliances and security guarantees was seen as the most effective policy.

PANEL 4. ECONOMIC RESOURCES AND THE INTERNATIONAL STRATEGIC BALANCE

In terms of essential equivalence and the international strategic balance, the United States holds significant, long-term advantages in most of the traditional, nonmilitary elements of national power, including the enormous strength of its worldwide economic position. The international economic environment, however, has undergone profound changes over the past several years. This working group was tasked to analyze the international economic environment in terms of the elements of that environment which affect the broader strategic relationships between East and West; assess possible threats to US and Western economic superiority posed by North-South problems and by other international economic issues; and examine the Soviet potential to alter the international economic balance and the noneconomic factors suggested by such potential.

Agreeing that economics is relevant to and impacts on national security, the panel asserted that the West, including North America, Europe, and Japan, faces serious economic problems. There is a high probability of a lull growth track in terms of overall GNP and almost certainly in terms of disposable personal income. Erosive energy and inflation crises must be met simultaneously. Coupled with this are problems of "governance" and questions of whether the United States can articulate and follow coherent international strategy both within the United States and with our allies. Nonetheless, the panel concluded that the Soviet problem is just as bad if not worse. During the 1980's, demographic problems, resource constraints, and generational leadership changes will force the Soviet planners into hard choices in the allocation of materials, capital, and human resources with inevitable voids. The net effect will be to limit the Soviet ability to exploit Western vulnerabilities. At the same time, Third World threats to the West—trade, oil, and petrodollar vulnerabilities—culminate in an erosion of Western institutions and influence in the international environment. As a result, the chairman suggested, the world had entered a phase characterized as "competitive impotence."

The panel conceded that the inherent flexibility and economic and technical advantages of the West made competition asymmetrical in our favor for the median term at least, but that economic power, like military power, is limited and cannot offset imbalances in other elements of the total strategic equation.

The group examined some of the East-West symmetries and asymmetries in terms of specific points of economic leverage or linkages. On the one hand, the Soviets would not find it easy or cost-effective to exploit the West's vulnerabilities. Conversely, our leverage in modifying Soviet behavior through their vulnerabilities is similarly limited. Substantial feeling in the panel held that in *rare* and selected issues, US economic leverage might be important. A large majority of non-Government members of the panel felt the marketplace should be allowed to decide whether to provide capital, technology, and assistance to Soviet resource development, without either official indorsement or hindrance, in the belief that assistance would probably contribute positively to the world's energy problem and that US unilateral controls would probably not be effective over time.

The panel believed the US Government was insufficiently involved with the impact of economics on security. Ad hoc mechanisms have taken the place of organized and systematic analyses of the effects of shifts in international trade, investment patterns, and other values affecting mobilization or defense technology. Without formally recommending action to the administration, it was felt that the importance of such values required more systematic mechanisms for study and evaluation.

PANEL 5. DOMESTIC PRIORITIES AND THE COMMON DEFENSE

Long-term changes in the international strategic balance have the potential to affect domestic priorities in ways which are only dimly perceived at the present time. This working group set out to examine the question of focusing the priorities of the Nation to support the level of resource allocation needed to maintain the military balance in a changing strategic environment. It suggested strategies to maximize potential strengths and minimize national vulnerabilities, within this environment, and examined the potential and commitment of the American society to support an effective posture in the coming decade.

In conducting their examination of the resource base required to sustain essential equivalence, the panel began with two assumptions: Our defense capability is inextricably bound up with our economic well-being and national sense of purpose, and our efforts to order national priorities must take into account our interdependence of interests with the major democratic nations of the world. The panel asserted that the current political and economic degeneration in the West, if allowed to continue, presents a clear threat to the stability of our society. Failure to develop a constructive energy policy, failure to correct both a stagnant economy and an inflationary one, affects the confidence of people in their leadership. Conversely, an effective program for managing resources would restore confidence, release funds for expansion of the economy, and increase tax revenues for defense needs.

The panel examined four resources affecting essential equivalence: money, research and development (technology), the industrial base, and manpower. The panel agreed that an effective national energy program would bring the economy back to sustained full employment since investment in resource-related fields would expand income and induce further investment. Major attacks on environmental problems or problems in national and international transportation systems would similarly increase productivity and the money supply. A restoration of the historical percentage of the GNP spent on research and development would have a like effect in expanding and strengthening the economy. Support by the Government of research and development activities in the private sectors through investment credit and relaxation of regulatory requirements was advocated by panel members. In examining the relationship of the industrial base to the maintenance of strategic equivalence, the panel found deterioration and obsolescence arising from inflated replacement costs and intrusive regulatory activity. The panel appealed for a relaxation of pressures in order to build an atmosphere of confidence needed by business leaders to renew their efforts to increase productivity.

Members recognized the complexity of manpower issues affecting strategic posture. With the all-volunteer force policies still in transition from the draft era, the panel noted there is room for improvement before despairing of meeting our strategic needs. Management actions to improve the Army's ready reserve shortfalls were commended, but the panel urged creation of a standby conscription system for future emergencies.

The panel emphasized the linkage of success of the all-volunteer force to a vigorous economy in that both monetary and educational incentives will be needed to sustain force compositions able to meet political requirements.

PANEL 1

Essential Equivalence and the Strategic Nuclear Balance

An examination of the implications of the established US nuclear weapons policy on the strategic balance between the United States and the Soviet Union. An analysis of the indices of strategic capability and the application of specific indices to the conditions of essential equivalence. An assessment of the impact of the essential equivalence on the political perspectives of the United States, the Soviet Union, and the NATO Alliance.

Chairman

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**Essential Equivalence and
the Strategic Nuclear
Balance**

**Chairman's Plenary
Session Summary**

Honorable William G. Hyland

The task that we undertook was to examine the problem of essential equivalence and the strategic nuclear balance. Very early in the discussion a massive attack was launched on "essential equivalence" as a phrase or a concept. The phrase disappeared for a day-and-a-half and almost no one used it; but it recovered somewhat at the end, and I will get to that because I think it was a fairly interesting turn of our particular panel.

We had two papers, one by Jim Foster of Rand, the other by Ben Lambeth, also of Rand. I would urge anyone who is interested in the subject of strategic balance to read these papers. I think you will find that both authors have done a splendid job, and they were very helpful to us in getting the conversations launched. Jim Foster's paper in particular has a great deal of data and analysis in it. But Jim came to the general conclusion that what he would like to underline about estimating the balance or trying to determine what, in fact, is the balance, is that there is a great deal of uncertainty, that there were no particular criteria that he would single out as decisive. I think that was echoed as our conversations proceeded—there were no absolutes that allow us to say (if we could rectify or maintain this or that particular index) we would in fact have a balance that would be acceptable to the United States.

Rather, our discussion got into what criteria or force characteristics we would adopt if we were magically appointed to be in charge of that subject. In a way we were trying to define essential equivalence, though we reassured ourselves that was not what we were doing. We got some diverse views at the beginning which I will give you very quickly.

At one end of the spectrum there was a feeling of some participants that our present strategic forces are more or less adequate and that the problem was more political in nature, more on the question of controlling the risks of war arising out of political competition and conflict and from the arms race itself. That was one end of the spectrum.

Another view was that the United States should purchase and deploy forces that were capable of destroying a given set of target systems of the enemy as determined by our national political leadership.

A third viewpoint was that the characteristic of our forces should be to enable them to deny victory to the other side in the sense of an overall war outcome. It was defined by one participant as not permitting the opponents to predominate on the worldwide battlefield at the end of a conflict.

There was a fourth viewpoint that went beyond this somewhat, in saying that this view was essentially a military approach to the strategic balance, but that there were requirements that went beyond these forces in the political field in order to convey the impression of momentum or willpower to the other side. So the fourth viewpoint was a kind of broader determination of what our forces should be, bringing in problems of politics.

There was a general feeling, I think, that it was very difficult to set down absolute criteria for strategic forces in which we would have some confidence in the balance deriving therefrom. One reason that we discussed, was the difficulty of trying to define in a very precise way the concept of victory, which many of our participants felt was in the Soviet mind and which occasionally appears in Soviet literature. This indicates a difference between United States and Soviet doctrine; and one reason that essential equivalence is a very misleading term is because it implies a common underlying assumption or a common underlying approach, whereas many of our participants felt that the Soviets did not share many of our views and attitudes toward strategic forces or toward strategic balance.

So without trying to draw too stark a conclusion, we did note that there may be what we might call a "conceptual gap" between the two sides; that the American concept of strategic balance seems to emphasize more static qualities, the status quo or some kind of an acceptable equilibrium, whereas the Soviets seemed to have more of a dynamic concept that suggests forces constantly in movement. As a corollary to that, the Soviets seemed to have a willingness to entertain the notion of victory in nuclear war, whereas the predominant American psychological attitude was that it is very difficult to conceive of what "victory" would be in the circumstances of nuclear war.

We went on to try to refine some of our attitudes. We went down a list, and my notes suggest there was a general order of force characteristics of American strategic forces that we would want to emphasize in varying degrees.

The first three characteristics I think had a consensus, though each participant would like to apply a certain nuance:

First of all, our strategic forces should be highly survivable. I don't think that was ever challenged.

Second, there should *not* be a gap in counterforce capabilities between the two sides, or, as a variant of that, there should not be a gap that had any real significance.

Third, there should not be a gap in rough countervalue capabilities—in other words—the ability of the two sides to inflict roughly the same amount (or relatively the same amount) of industrial, urban, and population damage on each other.

So those three were the core of what we felt might be the characteristics of American strategic forces. To the extent we deviate from those three essentials, we would foresee growing problems.

There were other elements discussed that I want to mention because they were fairly interesting. There was what one participant called "banking strategic power." As it was discussed and described, he felt (and others shared this view) that American forces should have a certain built-in momentum—that is, a certain number of programs should be under way to convey to the other side the impression of our willpower, and to convey to our allies that there were commitments to continual strategic parity. We didn't go into

this. I think it is one of the more interesting ideas that were mentioned in our panel. It is somewhat different than the classic American approach of building a given number of weapons and then quitting to wait to see what happens.

Cost-effectiveness came up, as you might expect. It was not discussed at length, but the point was made that you can't be too certain of any particular criterion because, obviously, you might choose a program if it cost \$20 billion, but if that same program cost \$80 billion, you would certainly have to reconsider the value of that particular program; so price tag was mentioned but not given major emphasis.

Finally, there was a considerable discussion in our panel of what I would call escalation control, or crisis management, or crisis stability (it goes under various names). But almost all of the participants felt that one of the areas we have to give a great deal of consideration to is stability in a crisis; that while static measures of forces are important in the geopolitical sense, what matters in practice is how both sides would behave in a crisis and how the potential balance might affect the attitudes and actual policies in a crisis.

In relationship to what is called the era of parity or essential equivalence, participants tried to draw some conclusions as to how the actors might behave in a crisis in this present situation. There was a great temptation to compare the present to past crises—to the 1962 missile crisis and to the Middle East alert of 1973.

Out of this discussion I think came a greater concern for miscalculation. Two miscalculations which are very closely related were discussed. One was that the Russians, in viewing the present and potential balance, might feel that it was such that they had a right to believe the United States would give way in certain crises because the "correlation of forces" was roughly equal or slightly favorable to the Soviet Union; and, therefore, unlike 1962 or 1973, the Russians would not blink or back down but would expect the United States to do so. That was highlighted as a very dangerous aspect of the present situation if, in fact, that is what the Russians believe.

Another possibility was that the United States might be faced with a situation as I have described where the odds were clearly against us (perhaps sometime in a few years), but that we, out of an instinctive American reaction, would not recognize the change and would barge ahead, expecting the Russians to behave exactly as they did 10, 15, or 20 years ago. That could be quite dangerous if we chose to ignore the real situation and to operate as we have traditionally operated.

We did get into the subject of perceptions of the balance—a subject which is now given a lot of attention. How is all of this perceived by other parties, by the Russians, and by ourselves? That was a very interesting discussion, but we did not break much new ground.

We did touch on a subject that probably deserves more attention. That is, to what extent in the present period, when the balance is in effect "in balance" (that is, both sides seem to be about equal)—to what extent is that affecting already the political behavior of the Soviet Union? Specifically, someone brought up Africa and also mentioned the recent trials in the Soviet Union, and suggested that perhaps we are now seeing the beginning of a Soviet reaction to what we call the era of parity. There was a feeling that it affords the Russians not only more opportunities but more freedom of action at lower risks. We did not pursue that at length, but I think it is an area that deserves attention.

We did get into the question of how our allies perceive the strategic balance, how it affects them, particularly in Europe, even though this may not have been quite our subject. There was a feeling of paradox that the Europeans still have a kind of innate faith that the United States is going to do something about its present strategic problems, that it is really the business of the United States, and that somehow we will "fix it." But some of the participants felt that there was a growing concern in Europe about what might be called decoupling; some felt, now that the balance seems to be more or less even and perhaps in some areas favorable to the Soviet Union, that the chain of extended deterrence (i.e., the chain of American escalation from conventional to tactical to theater to strategic exchange) was much less credible than it was some years ago; that there were doubts that the United States would in fact go all the way up the escalation ladder and, therefore, that the Europeans down the road (not today but perhaps in years to come) might be faced with some rather agonizing choices.

One of the choices might be to accept the inevitability of this broken chain and opt for what might be called a European nuclear force or an American nuclear force based totally in Europe with the mission of neutralizing Soviet theater forces.

The other, more extreme option, which no one predicted but which was noted, was that some Europeans might decide the better part of valor or wisdom would be to acquiesce to Soviet policy and to try to make some kind of an accommodation.

We did discuss one new factor (or what I would call a new factor); it is not new to this audience, but it is new in the sense of the broad dialogue on strategic affairs. That is the question of survivability and civil defense. We were fortunate to have on our panel some people who had firsthand experience and knowledge and told us something of the Soviet program, and something of our "program." This was one of the more disturbing discussions because, had we held this conference a number of years ago, we probably would have hit civil defense only a glancing blow. But in talking about strategic stability or essential equivalence, it is now almost impossible to ignore the fact that the Russians have a program that emphasizes survivability, and a hardness of its industrial facilities and certain recovery capabilities. We were given figures of expenditures per capita on this which suggest about an 8:1 ratio in the Soviets' favor.

Particularly important was the acknowledgment by some of our participants that this would be a factor in a crisis, that this may be the one new element that could be injected into a major confrontation or crisis with the Soviet Union—the option of doing something about survivability. One scenario, of course, would be at some point to begin an evacuation or to threaten an evacuation. It does add a new dimension to trying to estimate what is strategic stability or balance.

Finally, we got into SALT. We postponed it to the last in order that we not take up an inordinate amount of time debating whether the present SALT agreement should or could be ratified. We tried to approach it on the basis of, what is the purpose of SALT in the context of our discussion? Does it have an aim that can be related to strategic stability and balance and essential equivalence? We did not come out of this discussion unified. We came out with some different viewpoints. On only one point, perhaps, did we have what I consider a really sharp and rather clear division.

There was a school that argued that SALT still had a symbolic value—there was a political dimension to SALT because it was part of the Soviet-American relationship—and that in itself had merit.

There was a probably somewhat stronger view that that idea was not only losing ground but perhaps was now self-defeating. The thesis was put forward that one of the problems with SALT is that not only does it not solve certain questions in terms of the Russian threat, but it has an effect of preventing us from taking the steps that might remedy the situation. *There was debate as to the kind of psychological-political impact of SALT, especially on the Congress, and on whether SALT tilted the debate toward not pursuing needed or new programs or whether it was actually the vehicle in which programs were pursued because they then had an even greater rationale.*

I think we came out feeling that while in 1972, at the time of SALT I, the mood of the Congress was still more or less against new weapons programs (reflecting the tail end of the ABM debate), the mood now is different; we felt that there is probably a greater receptivity in the Congress, and perhaps in the public in general, to adopt strategic programs, even though expensive, if they were justified to maintain a balance with the Soviet Union. Thus, SALT might not lead to this kind of relaxation.

In any case, there was further discussion as to whether SALT could really be expected to take care of some of our concerns, specifically the concern we have about the vulnerability of our land-based ICBM's. There emerged a feeling that we would be asking too much of a SALT agreement to solve this problem because the solution lay in the direction of *vastly asymmetrical bargaining in which the Russians would have to abandon a great deal of the missiles that threaten the Minuteman.* And it was difficult to see how that bargain could be reached.

There was a feeling that perhaps SALT III would be the place to attack this again; but there was also some interesting commentary that maybe SALT III would be more focused than its predecessors on certain defensive instabilities or asymmetries, though as we got into it a little bit, we found that it was the only thing for which we didn't have any bargaining chips that we would be willing to play. *So SALT III began to fade into a kind of distant glow as something that would be nice to have but that we would work out its objectives later, which confirmed the views of the critics of SALT I, II and III that we had no coherent SALT strategy and that SALT in fact was becoming quite dangerous.*

So the SALT debate highlighted what is a period of uncertainty about SALT—whether it is really relevant to strategic problems, or is more relevant to the political relationship.

We did touch on one of the more current issues, which is the multiple aim point system for ICBM's. There was a slight feeling that perhaps, if we are going to pursue this system and this approach, that it might be better to pursue it in a SALT context than in a context of unilateral or bilateral competition, and that SALT might add a certain stability or define some parameters to go ahead with this system.

With one or two exceptions, no one in our panel really challenged the need for a system of some kind to preserve the American land-based ICBM's. I think it was kind of an unspoken assumption (and it is very strange, in a way) that we did not debate the question: do we need a triad? Every time the question came up, people talked about missiles, bombers, SLBM's, and so forth. There was almost a working assumption that while the triad had its problems, no one was pressing hard to abandon it; what we were searching for were ways to maintain it.

Looking back at our discussion, I found it quite good and better than my summary because many of our participants were very articulate. I would recommend some of their

writings—Paul Nitze's, Jan Lodal's, and Colin Gray's articles in *Foreign Affairs*.^{*} All were related to our discussion.

Some people would say that we are in an era of essential equivalence, if we can maintain it; and that if understood in the sense of rough capabilities that are roughly equal, essential equivalence is perhaps justified as an adequate American policy (even though the words like "detente" perhaps should be set aside). But the era of parity or essential equivalence has led to a multiplication of instabilities rather than to an increase of stability.

There seems to be a growing gap between the concepts of the two sides about nuclear war in general. There seem to be growing gaps in certain capabilities and particularly in the capability to conduct counterforce attacks. There seem to be growing uncertainties about the behavior of one side or the other in a crisis. There is some possibility that the Soviet side will have more options in a crisis, particularly because they will have some defense options. There are growing uncertainties because of the strategic balance. There are growing uncertainties in specific regions. We discussed Europe, but I think it's worth adding Northeast Asia and Korea.

There is an uncertainty about the impact of strategic parity or essential equivalence on the conduct of the superpowers on a global scale and whether the competition (though somewhat more subtly) was actually growing sharper and broadening in scale.

Those are some of the concerns that were reflected on our panel. We did not come out with strong recommendations of what to do. If we had taken a vote, we would vote for some solution to the problem of ICBM vulnerability; and a slight majority would probably have gone for a multiple aim point system, though there were some doubts as to its feasibility. We would have voted slightly—maybe more than slightly—in favor of a new, larger throw-weight ICBM.

We did not go much beyond that in specific weapons systems; the feeling of the panel was that those two systems at least were desirable. There was also some sentiment for reviving the B-1. Those two systems reflected our concern that our strategic forces must be survivable; if not, we are buying ourselves a very serious risk of instability; unless there is a rough equality, which we might call "essential equivalence," in such indicators as missile throw-weight and war outcomes, we would be buying ourselves a considerable danger. The danger was expressed by the participants.

The prime danger would be that we would risk losing the war (those were the words that were used), and perhaps equally important, we would risk losing the peace.

GENERAL GARD: I would like to ask Secretary McGiffert if he would like to ask a question.

SECRETARY MCGIFFERT: I have one question, Bill. That is the extent to which you looked at the question of essential equivalence in relation to [the theater nuclear balance].

MR. HYLAND: We got into it without really going into it in depth, but our feeling was that our problem was that we were beginning to lose options; that one by one, starting at the highest strategic level, we seem to be finding ourselves with fewer and fewer choices; that strategic exchange seemed less credible in parity; that theater nuclear

^{*}See the January 1976, April 1976, and July 1978 issues of *Foreign Affairs* for the articles.

exchange seemed less credible, especially because of certain modernization programs on the Soviet side; and that tactical exchange, if it implied escalation, looked somewhat less credible. So we didn't get into the question of a theater balance as such.

There was quite a bit of discussion as to why the Europeans should be more worried now than, say, 10 or 15 years ago. The feeling was that it was in part psychological; that while the Russians are modernizing, and the SS-20 is a better missile in total threat to London or Paris, it might not be all that greater. But the fact is that the Russians are doing it. And what was troubling was that there didn't seem to be a counter program or philosophy to counter it on the Western side.

Essential Equivalence and The Strategic Nuclear Balance

Rapporteur's Report

Colonel J. M. McKean, USAF

Panel 1 was charged with examining the implications of the established US nuclear weapons policy on the strategic balance between the United States and the Soviet Union; analyzing the indices of strategic capability and the application of specific indices to the conditions of essential equivalence; and assessing the impact of the essential equivalence on the political perspectives of the United States, the Soviet Union, and the NATO alliance. The purpose of the discussions was to exchange ideas and perceptions in the process of arriving at recommendations to assist national security policy formulation.

Although the panel did not reach a consensus on specific conclusions and recommendations, significant factors concerning the strategic nuclear balance and its impact on national security policy formulation were brought out during the discussions. Three general topics emerged as the framework for discussions: essential equivalence, Soviet and Western European perceptions of the strategic and theater nuclear balance, and Strategic Arms Limitation Negotiations.

ESSENTIAL EQUIVALENCE

The paper on this subject, authored by Dr. James L. Foster of The Rand Corporation, and published separately in these *Proceedings*, provided the background for this discussion. Although the panel did not discuss all the various indices addressed by Dr. Foster, there appeared to be a consensus on his general point that assessments of essential equivalence, "... will necessarily be a matter of judgment rather than of analysis and, therefore, cannot be resolved by use of any form of currently available measures of strategic capabilities." Put another way, in the context of the discussions, each panel member had his own idea of the measures, some absolute and some relative, which characterize essential equivalence, but judgmental factors precluded any hope of reaching a consensus on a precise definition of the term.

The origin of the term "essential equivalence" was discussed, and it was brought out that the term was devised to bring about agreement between the US and Soviet SALT negotiators on the concept of rough parity. The Soviet refusal to accept the concept of essential equivalence as a basis for negotiation provides clear evidence that the Soviet term, "equal security," as used in the SALT context, implies a different concept than does essential equivalence.

In order to discuss the elements of essential equivalence without forcing an acceptable definition, the panel was asked to consider what minimum requirements they would list in order to have essential equivalence or rough parity. The ensuing discussion showed that the term "minimum requirements" can take on different meanings in different contexts.

On the one hand, it could mean the number of alert nuclear weapons required to match an aggregate set of targets. In this context, some said the United States exceeds its requirements while others felt that more weapons were needed. One of the main concerns in this discussion was the "accidental" war, the war that nobody wants.

On the other hand, minimum requirements could imply sufficient forces (conventional as well as nuclear) to deny the achievement of Soviet goals and objectives. Whether or not the minimum requirements to thwart Soviet victory in political as well as military areas would be greater than those for exclusively military areas was not conclusively decided.

Yet another way of looking at minimum requirements which was brought out in this discussion is to relate them to possible war outcomes. A significant difference in US and Soviet approaches was noted in this regard, but the main discussion will be covered in the next section on Soviet perceptions. The concept of victory as viewed by the Soviets, however, gave rise to a discussion as to the plausibility of war and particularly two factors which relate to essential equivalence. One factor is the risk one perceives in initiating events which are meant to lead to victory. The other factor is how the initiator perceives the capability and will of his opponent to counteract his initiative.

Attempting to get at the basic elements of essential equivalence another way, the discussion was directed toward those absolute (as opposed to relative) factors which would characterize a minimum strategic force structure. Positions ranged from that which would accommodate a decrease in strategic hardware to that which would advocate immediate and intensive development programs.

Although no precise figures were offered, some believed that an existing surplus of nuclear hardware increases the likelihood of its use, and that this problem needs to receive more attention in policy formulation.

Others believed that absolute factors should include sufficient US strategic forces to equal the Soviet counterforce capability and maintain rough equivalence in Soviet countervalue capability. The objective would be to insure that the Soviets would not perceive that they could win a nuclear war. Variations on this theme included alternatives ranging from force characteristics which would provide an assured destruction capability plus some capability to be effective in a damage-limiting role, to force characteristics which would provide greater options and flexibility of use in order to gain a measure of political leverage in crisis management.

Another aspect of this discussion concerned trends, both in the strategic nuclear balance and in political events, involving interactions between the superpowers. The points were made that the rate of change of the strategic nuclear balance may be more important than a measurement of precisely where it stands, and that political events may affect the perceptions of the strategic balance as well as being affected by it. Additionally, the location of a political event, particularly a crisis situation, can be a factor in how much the event is tied to the strategic balance.

As this part of the discussion came to a close, several ideas seemed to stand out as important focus points.

- Essential equivalence is very difficult to define in absolute measures, and may be less relevant than relative factors such as how the Soviets view victory or how Western Europe perceives the US will to act in crisis situations.
- The concept of strategic balance is important to both superpowers, and the differences in perceptions need to be better understood and more thoroughly considered in policy formulation.
- Rough parity or essential equivalence may give rise to instabilities caused by differences in things such as doctrine, hardware, concepts of escalation, survivability and recoverability, and the perception of the utility of strategic advantages.
- A clear, coherent policy which addresses equivalence in broader terms than simply strategic nuclear weapons is needed.

SOVIET AND WESTERN EUROPEAN PERCEPTIONS

The paper on "The Political Potential of Equivalence: The View from Moscow and Europe," by Benjamin S. Lambeth of the Rand Corporation, provided a basis for this discussion. The paper is included as part of the *Proceedings*, but the author made several additional points in starting the discussions. First, with respect to the use of specific terms, Mr. Brezhnev mentioned "equality" in response to President Carter's Annapolis speech, and Mr. Ogartov implied the concept of "superiority of Soviet forces" in a discussion with Senator Breckenridge, although it was noted that Ogartov avoided use of the precise word. Second, Mr. Lambeth postulated that the US talk of essential equivalence could be a post hoc response to a situation which developed unexpectedly.

The panel set about examining the Soviet perceptions of the strategic and theater nuclear balance by focusing on the features of the Soviet approach to force structuring and the Soviet concept of victory. Several significant points were discussed in this regard.

Some groundwork had already been laid in previous discussion which had noted the Soviet objective of dominating a postwar world. Other aspects of this "victory" would be the high assurance that the Soviet political system would survive a war and that a war could be conducted in such a way as to preclude unacceptable losses.

The emphasis of Soviet force structuring on strategic offensive forces was noted as growing out of their concept that the initial phase of a nuclear war will be decisive. This is not to say that subsequent phases, conventional as well as nuclear, will not occur. However, the leverage obtained from a successful initial phase would continue to play in subsequent phases. The point was that while US emphasis has been predominantly, if not exclusively, on deterrence, the Soviets, in their planning, have thought the war through.

The carryover of time-honored military traditions from ground forces to rocket forces may inhibit the Soviets from addressing limited nuclear conflict, and it is perceived that they have significant uncertainties in this area. However, it was also noted that Soviet capabilities for discriminating nuclear strikes, particularly in the theater, have increased significantly in a relatively short period of time.

Although it was considered reasonable to assume that the Soviets have addressed nuclear escalation in a military, technical forum, significant uncertainty was perceived in this regard in the event of a crisis situation.

The European perceptions of changing theater nuclear balance were considered as important to the United States and USSR. The dilemma of linkage to the US strategic nuclear deterrent and European control of nuclear retaliation was seen as an important one. In discussing the future of Western Europe if Soviet power is perceived as increasing while US power is static or decreasing, several alternatives were laid out, even though the probability of some might be extremely low. One alternative would be for Europe to increase its support of NATO. At the other extreme would be an alternative to "go it alone," by which the Western European countries would acquire their own nuclear forces. Another possibility would be some accommodation by Western Europe with the Soviets which would lessen whatever perceived threat existed at the time.

Important to this discussion was the question concerning what has changed in how the Western Europeans perceive the theater nuclear balance. Two factors surfaced as significant in this regard. First, the Soviet deployment of SS-20's and the Backfire bomber has a political dimension. It reconfirmed a threat which already existed, and did it in such a way as to increase the threat through increased capabilities of both systems over their predecessors. Second, the new systems constitute a direct threat to Europe, whereas older systems, deployed before the Soviets had ICBM's, could be considered as an indirect threat against the United States.

This part of the panel discussions closed with an examination of the Soviet perception of survivability and recovery as reflected in their civil defense programs.

The major asymmetries between US and Soviet civil defense programs were noted, and there was a consensus that the Soviet program implies that they have serious concerns about survivability and recovery. While their program does not seem particularly suited to a multiple phase war, and in that sense might appear useless if the probability of a single massive countervalue attack is low, another value was noted: in a crisis situation, an effective civil defense program could provide a measure of leverage and flexibility in crisis management.

STRATEGIC ARMS LIMITATION TALKS

The panelists were asked to consider the role of SALT with respect to the problems they perceive in the strategic balance. Although an attempt was made to divorce the discussion from SALT II, most of the discussion centered here.

A proposition was suggested that entailed examining various military stresses and then analyzing them to see whether they can be met best through arms negotiations or by military acquisition programs. The only military stress discussed in detail was that concerning potential Minuteman vulnerability. Because of existing force asymmetries, it appeared doubtful that SALT could solve this problem, although it could help. Indeed, some thought SALT to be necessary to the success of any multiple aimpoint system (MAP). Although MAP together with a SALT II agreement would be an example of acquisition and agreement, some panelists felt that, in general, system acquisition would be very difficult if an agreement is reached. Others felt that the American public mood has changed significantly and that necessary programs would receive broad support. Still others felt that such programs should be initiated instead of continuing negotiations,

in an effort to drive the Soviets toward more productive negotiations eventually and to abruptly change the US political climate.

With regard to systems acquisition, the point was made that it is necessary to distinguish whether SALT is a means or an end. There was consensus that the aim of SALT is to enhance US national security. At the same time, it was pointed out that SALT, so far, only addresses one segment of the general equilibrium problem.

In general, the panel characterized SALT as good, but with the caveat that some things, such as MAP and MX, need to be accomplished. Two views dissented from this characterization. One would view SALT as hopelessly bogged down between the lack of will to acquire systems and the lack of will to negotiate arms controls. The other would view SALT as falling so far short of objectives that the political utility of SALT favors the Soviets.

Essential Equivalence: What is it and How Should it be Measured?

James L. Foster

I. INTRODUCTION

The assigned tasks for this paper were "to translate the general policy of essential equivalence into relevant planning criteria for US strategic forces by defining the indices of strategic capabilities which have the greatest potential both for maintaining equivalence in actual force capabilities and for influencing perceptions of equivalence." The advantages and limitations of various indices of strategic capabilities were to be assessed as well as their "applicability to the conditions of essential equivalence."

To determine what the appropriate methods are for assessing the degree to which US and Soviet forces are "equivalent," it is first necessary to define what is meant by the term essential equivalence, and what conditions comprise a state of equivalence. This paper will examine alternative answers to these difficult questions and then assess the *appropriateness* of alternative indices of strategic capabilities as measures of equivalence.

II. WHAT IS ESSENTIAL EQUIVALENCE AND WHAT ARE ITS PURPOSES?

The concept of essential equivalence, as it has been treated in official statements of policy and in the general strategic policy debate, raises a number of difficult questions that have not as yet received critical attention. Those questions include: (1) What are the ultimate purposes of the policy of maintaining a posture of essential equivalence? (2) What attributes of strategic forces are to be excluded and included in assessments of equivalence? (3) At what level of aggregation of forces and force capabilities is equivalence to be measured? (4) How "rough" are the assessments of equivalence allowed to be? (5) If "superiority" in some strategic force attributes is acceptable, and even desirable, then in what attributes should the United States seek "superiority" to offset Soviet "superiority" in other force attributes? And, (6) given the existence of considerable uncertainty in the actual values associated with various parameters of strategic capabilities, should the United States be "equivalent" to the "worst case" Soviet threat or to the "best case" Soviet threat?

These questions deserve some elaboration. In terms of measuring essential equivalence, two quite different methods are frequently used—sometimes simultaneously. One method is to focus on crude, aggregate indices of strategic capabilities such as total numbers of warheads, numbers of launchers, or throw-weight. Another method is to

focus on equivalence in terms of the capabilities of particular kinds of systems, such as the counterforce capabilities of land-based missile systems. Still a third approach is to focus on generic kinds of capabilities irrespective of the type of weapon used—for example, limited attack capabilities, counterforce capabilities, or urban-industrial damage potential after absorbing a first strike. Which of these approaches is to be used? To answer this question demands that we first determine the purposes of equivalence and the level of force aggregation that is appropriate for measuring equivalence.

With respect to the ultimate purposes of essential equivalence, is the purpose only that some "rough" parity be maintained for the sake of parity and its political implications; or is there also intended in the concept some military effectiveness content as well? Unless one is willing to argue that parity, in itself, is essential to deterrence, irrespective of the particular retaliatory capabilities involved, then what parity conditions are consistent with deterrence? Is it necessary to have greater than a capability for "unacceptable damage" to preserve deterrence and, if so, must the "extra" capabilities be equivalent to those of the Soviet Union?

Official treatments of the essential equivalence concept have focused on offensive force capabilities and seldom given attention to differences in active and passive defensive capabilities on the two sides. In what manner are we to include civil defense activities, air defenses, and antisubmarine warfare (ASW) capabilities? There has never been mention of the need for "essential equivalence" in civil defense capabilities, presumably because there is little interest in the United States in large-scale civil defense programs. Does this mean that the United States must hold a superiority in capabilities for attacking industrial and population targets in order to be "equivalent" to a Soviet Union that does not face an adversary with an active civil defense program? Similarly with such capabilities as ASW: Do the two sides have to be roughly equivalent in ASW capabilities or does the side that is ahead in ASW capabilities have to be behind in offensive submarine systems?

Given the fact that our ability to calibrate actual strategic weapons capabilities is severely limited, how do we know when we have parity? Is it acceptable when the uncertainty ranges for US force capabilities fall within the range of uncertainty for Soviet force capabilities? How much hedging is acceptable to minimize the possibility that US forces will not operate as well as expected? Of particular importance in this regard is the issue of survivable and reliable command and control (C³) capabilities which are rarely included in assessments of essential equivalence. How should we take account of C³ survivability uncertainty in assessments of strategic capabilities?

The final set of questions revolves around the general question of why and how is "superiority" undesirable or unachievable? The fact that we have established equivalence with the Soviet Union as an objective suggests that we are concerned that the Soviets might be able to achieve some level of superiority that is politically or militarily significant. If superiority poses some potential benefits for the Soviets, is superiority something the United States really wants to eschew? Are there no benefits that outweigh possible costs such as the benefits of a more credible posture with respect to our European allies?

The terms of reference for this conference refer to essential equivalence as the "essence" of US strategic policy. Such equivalence is said to entail the denial of nuclear forces as instruments of political leverage, coercion or military advantage, the maintenance of crisis stability, the balancing of US and Soviet strategic force

advantages, and the universal perception of equality in strategic capabilities. These conditions appear intended to be criteria for assessing the existence of essential equivalence. However, in the past these conditions have generally been considered separable objectives of the strategic forces, objectives which may well suggest conflicting force requirements. The inclusion of those criteria under the heading of essential equivalence indicates a significant broadening of the definition of that term as well as a promotion of that concept to the role of the single, overarching objective of US strategic policy.

Most commentators on US strategic policy have referred to essential equivalence as only a state of rough parity of strategic capabilities; and it is clearly possible to define conditions of rough parity which may not satisfy the objectives, for example, of denying coercion (especially of third parties) or of maintaining crisis stability. Therefore, if the conditions noted above, and any additional conditions that may be considered important, are to be criteria for assessing essential equivalence, then essential equivalence must refer to a state of rough parity in which certain minimal force size and composition conditions are also satisfied. What does essential equivalence mean? What conditions are associated with it? How should equivalence be measured? A brief review of how the concept evolved as a major objective of strategic policy and how different policy advocates have defined the concept and employed alternative measures of equivalence is helpful in attempting to answer these questions.

Particular concern about "who's ahead?" in the strategic competition and about alternative methods of answering that question has emerged only in the post-SALT I period with the continuing Soviet strategic buildup raising questions about ultimate Soviet intentions. For a brief period in the early 1960's, when the fear of a "missile gap" emerged, there was agonizing about the implications of the United States losing its posture of strategic superiority. There followed a period of dramatic buildup in US strategic forces and of general acceptance of the fact that the United States held a position of strategic superiority. Though the Soviets were beginning to build a significant strategic arsenal by the mid-1960's, the issue for Secretary of Defense McNamara was not whether the Soviets were "catching up" or whether and how the United States should "stay ahead" of the Soviets. Instead, according to William Kaufmann, in his chronicle of the McNamara years, McNamara was not only unconcerned about the Soviet buildup but appeared to use the Soviet buildup as a rationale for limiting the deployment of additional US forces.¹ The growth of Soviet forces seemed to reduce the prospects of a US first strike or second strike, damage-limiting attack.

... the cost of covering the Soviet target system was rising rapidly. There could be no certainty, moreover, that all important Soviet warheads—that is, those in bombers and missiles—could be eliminated by available offensive and defensive measures. In fact, McNamara tended to estimate that a significant fraction of these warheads would survive regardless of the efforts made by the United States. He also continued to assume that, at some point—whether at the outset or the end of such a war—the Soviets would direct warheads against American and European cities.²

In short, if the United States could not acquire an effective damage-limiting capability, and the growth of Soviet forces and, thereby, Soviet targets precluded this, there was nothing to be gained from capabilities beyond those needed for "assured destruction." Similarly, there was nothing to be gained from limited nuclear war capabilities because any nuclear war would ultimately become total war in any case. In a

speech in late 1963, McNamara rehearsed these themes and added the final assumption to make concern with relative strategic capabilities appear to be largely irrelevant:

... strategic nuclear war would under all foreseeable circumstances be bilateral—and highly destructive to both sides. Larger budgets for US strategic forces would not change that fact ... the same situation confronts the Soviet leaders, in a way that is even more intensely confining. In fact, enormous increases in Soviet budgets would be required for them to achieve any significant degree of damage-limiting capability. The present Soviet leaders show no tendency to challenge the basis of the US strategic deterrent posture by such expenditures.³

In retrospect, McNamara's argument appears to reflect several of the characteristics of the arguments raised by those who currently take a sanguine view of the Soviet buildup: rely on hopeful assumptions about Soviet intentions and about constraints on Soviet actions, and mirror-image the force posturing criteria directing the Soviet buildup. In this case, McNamara may have been right that the Soviets could not achieve a "splendid first strike," damage-limiting capability but he overlooked the fact that the Soviet buildup could, nonetheless, pose significant political and military problems for the United States.

The ultimate disparaging remark about the value of strategic "superiority" came from Alain Enthoven. He argued, during the 1960's and in retrospect that

... we should design forces and set levels of megatonnage, warheads, and missiles to match US objectives ... not against Soviet objectives or Soviet weapons characteristics ... notions of strategic "superiority" are devoid of significance ... such "nuclear superiority" as the United States maintains is of little significance, since we do not know how to use it to achieve our national security objectives.⁴

In this view, "superiority" could offer nothing to the United States and, therefore, it could presumably be relinquished without travail. If there were no potential advantage for the United States, presumably there was also little to be gained for the Soviet Union if it attempted to achieve "superiority."

By the early 1970's, the maturing of the Soviet strategic buildup and the commitment to SALT led to a new rationale for sizing US defense strategic forces. In describing the first "comprehensive" 5-year defense plan of the Nixon Administration, Melvin Laird made the case for "sufficiency" as a force-sizing concept.⁵ The interesting aspects of Laird's argument were that there was no treatment of relative US-Soviet strategic capabilities and there was no assessment of the likely or possible course of the Soviet buildup. Not only was there no assessment of the strategic balance but also the force posturing criteria associated with the "sufficiency" concept largely ignored concerns about relative capabilities. The four basic force posturing criteria were: to maintain a high confidence second strike capability, to allow no incentive for a Soviet first strike in the context of crisis, to be able to defend against limited attacks, and to deny the Soviets an ability to impose greater urban-industrial damage than the United States can impose in return. The last criterion relates to relative capabilities but is defined in terms of damage outcomes postulated from a nuclear exchange rather than in terms of peacetime capabilities. The only mention of possible political uses of strategic forces came in the context of discussing the need to deter "coercion," but this concern was linked to the notion of developing limited nuclear options capabilities rather than to notions about

relative capabilities. As for Soviet intentions underlying their strategic buildup, Laird indicated a certain mystification which was mirrored in his very brief assessment of the near-term prospects for Soviet force deployments: "As was the case last year, there is still no agreed estimate on what the size and characteristics of the Soviet force will actually be in the period after 1972 (only two years hence), or on where it may level off."⁶ Given this admission that the United States was unable to project even near-term Soviet force posturing actions, it was indeed fortuitous that the "sufficiency" concept did not presume any particular conditions of relative, peacetime capabilities as criteria for US force posturing decisions.

The notion of "essential equivalence" entered the defense policy lexicon following the completion of the SALT I agreement and was given its first definition by Secretary of Defense James Schlesinger. Schlesinger did not define equivalence as an objective of policy but, rather, argued that "credible nuclear deterrence" depended on the satisfaction of four requirements, one of which was "essential equivalence with the Soviet Union in the basic factors that determine force effectiveness."⁷ In emphasizing equivalence in factors affecting force effectiveness, Schlesinger appeared to minimize the importance of aggregate force size and composition, as usually included in strategic balance assessments, as matters of concern in estimating equivalence. He emphasized that "we cannot allow major asymmetries to develop in throw-weight, accuracy, yield-to-weight ratios, reliability and other factors that contribute to the effectiveness of strategic weapons."⁸

In the same document in which the comments above were made, Schlesinger subsequently elaborated on the essential equivalence concept and expanded the range of issues to which it was deemed relevant and the conditions with which it was deemed consistent. First he made reference to the problem of perceived power: "An equally essential requirement of deterrence is parity with the Soviet Union in strategic offensive forces, as perceived by friend and foe alike."⁹ This comment, however, was not specifically related to the essential equivalence concept and when Schlesinger subsequently went on "to elaborate on what I mean by that term" essential equivalence, he limited himself to weapons effectiveness issues:

I believe that it would be a mistake to allow *major* asymmetries to develop between the US and the Soviet Union in the basic technologies and other factors that shape force effectiveness . . . We must be sure to keep pace with the Soviet Union in the design of new offensive and defensive systems. . . . We may need to maintain an offsetting advantage in some areas to compensate for Soviet advantages in others. For example, the US should seek to stay ahead in accuracy to offset the large and apparently growing Soviet advantage in throw-weight.¹⁰

Schlesinger's emphasis on particular weapons effectiveness attributes rather than aggregate strategic capabilities raises an important issue for those concerned with the issue of essential equivalence. If, for example, Schlesinger's proposed remedy for the Soviet throw-weight advantage—improved US missile accuracy—is meant to balance relative counterforce capabilities, then why not simply establish equivalent counterforce capabilities as a criterion? In this case it is not clear that an accuracy advantage can offset the Soviet throw-weight advantage. Soviet throw-weight allows for more as well as larger yield warheads. The Soviets are capable of employing a number of high yield warheads against each US missile silo and these factors offset both lower accuracies and weapons reliability uncertainty. Even if the Minuteman III force acquires high accu-

racy, the limited number of total warheads coupled with the larger number of Soviet silos means that only one warhead could be employed against each silo (once reliability is taken account of). And the much smaller yields for US missiles means that there is less hedge against uncertainty in missile accuracy than the Soviets will have as both sides enter an era of markedly improved missile accuracy. These observations suggest that the treatment of particular weapons characteristics independent of one another obscures the fact that it is the combination of attributes that determines actual strategic capabilities. This point places in question the popular use of such indices as megatonnage, number of warheads, or throw-weight as measures of relative capabilities.

On surface, the operational definition of essential equivalence used by Harold Brown does not appear to be significantly different from that of Schlesinger. Yet, there may be important differences in the nuances of their arguments. In one of his first major statements on strategic policy, Brown spoke of three major objectives of strategic policy: deterrence, stability, and essential equivalence.¹¹ Equivalence was no longer a requirement for achieving the objective of deterrence but was a major objective in its own right. However, the criteria for determining equivalence were quite distinct from the criteria for deterrence and stability and the appropriate criteria appeared to relate to aggregate capabilities:

... we are not talking about a single delicately calibrated point. Equality does not require identity. Rather, it is a condition met by a broad band of possible force structures on the two sides. Within that band the two side's forces—judged on a variety of measures, including present and projected technologies as well as potential scenarios for a nuclear exchange—are roughly equivalent overall. . . . As long as the differences in numbers do not get too large, and advantages do not begin to accumulate on one side, neither party will gain military advantage over the other. Nor will the Soviets acquire significant political advantages through perceptions by the two nations or by third parties of an unequal strategic balance.¹²

Equivalence, then, is to be assessed in terms of a range of measures of capabilities taken together, with those measures including indices of outcomes of war scenarios and indices of present and future technology developments. However, by making essential equivalence coequal with deterrence and stability as strategic objectives, it would seem that the basic purpose of equivalence is to influence perceptions of the balance. If there are separate force posturing criteria for deterrence and stability, then it is not clear what peculiarly military purposes are to be served by achieving essential equivalence. The implication of Brown's argument is that US forces should be sized first to meet the requirements of stability and deterrence and then such additional capabilities as are necessary to maintain a rough parity with Soviet forces. Formulated in this manner, independent of any particular force employment objectives or criteria and without a definition of particular measures of equivalence, the implication is that the purpose is to influence perceptions of the balance and that the relevant measures of equivalence are those which reflect how the balance is perceived.

In the discussion that follows we will first consider the force posture attributes and measures of those attributes that appear to have greatest influence on perceptions of the balance. Then we will turn to an assessment of various indices of strategic capabilities—both the measures of weapons effectiveness attributes proposed by Schlesinger and the measures of scenario outcomes proposed by Brown—to indicate their relevance and relative merit as measures of essential equivalence in strategic capabilities.

III. PERCEPTIONS OF ESSENTIAL EQUIVALENCE

The importance of strategic forces lies less in the outcome of abstract calculations of theoretical wars than in their influence on the course of international politics and on the capacity of the United States to promote its general foreign policy interests. However, we have few means for conceptualizing, let alone measuring, that influence. We know that both US statesmen and their counterparts in other nations are influenced by conceptions of "who's ahead?" and of apparent trends in relative US-Soviet capabilities. Exactly what influences their attitudes, how much they are influenced, and what difference it makes are questions not readily answered.

The official US position has been that "essential equivalence" in the aggregate strategic force parameters that define basic capabilities is a necessary and sufficient condition to promote US political interests. While most commentators on US strategic policy, including, especially, members of the US Congress, apparently accept the "essential equivalence" concept as defining a necessary and sufficient relationship of US and Soviet strategic capabilities, there has been little systematic evaluation of whether general "equivalence" does, in fact, satisfy US political objectives associated with strategic forces. In particular, there has been little analysis of whether general "equivalence" is interpreted by US allies and other important audiences as sufficient to maintain confidence in US commitments and in the US ability to continue its traditional role as a great power capable of effectively promoting its international interests. Assessing the relationship of "essential equivalence" to US political objectives is made difficult not only because of the lack of understanding about what, in fact, influences perceptions of and attitudes about relative US strategic power, but also because of the inability to determine what "equivalence" means or how to measure it in a convincing manner.

Typically, the "essential equivalence" concept has been translated into comparisons of simple, static, aggregate measures of current strategic capabilities such as number of delivery vehicles, throw-weight, EMT (equivalent megatons), or CMP (countermilitary potential). However, if the concern about "essential equivalence" reflects a desire to maintain an effective "balance" of forces as a general matter, then the use of these measures is debatable on the grounds that they are rather poor indicators of actual capabilities in operational contexts. If the concern is to maintain favorable assessments by various foreign audiences of relative US power, then comparisons of current strategic capabilities in terms of aggregate force measures may be even more suspect.

Though the data are limited and their reliability is open to debate, there has been some analysis of foreign perceptions of the strategic balance—analysis which has the strength of being intuitively logical—suggesting that a number of factors other than aggregate comparisons of current strategic capabilities may have greater influence on how relative US and Soviet strategies are assessed by public audiences. Those alternative factors and their postulated influence on perceptions of the strategic balance are suggested by the following arguments. First, whether or not US and Soviet strategic capabilities are currently in rough balance, perceptions of "who's ahead" are strongly influenced by assessments of past trends in relative capabilities. Furthermore, assessments of current capabilities are strongly influenced by assumptions about future trends, assumptions which are also influenced by past trends in strategic force developments, and by the current pace of relative technological change and of relative force buildups. That is, if the two sides are in rough balance now, but the Soviet Union has been rapidly

reducing a previous US lead, it is likely that assessments of current capabilities will be discounted against the perceived likelihood of future Soviet superiority. Furthermore, the appearance of a significant number of new and technologically advanced strategic systems coupled with a rapid, generalized Soviet force buildup, while the United States is focused on product improvements in current systems, is also likely to lead to a discounting of current or near-term equivalence in favor of a perception of Soviet superiority.

The point is that comparisons of absolute values of aggregate force measures of current forces may be less important than the direction and rate of change in the value of those measures over the recent past, and the changes in aggregate capabilities projected on the basis of current weapon developments. Furthermore, the fact that one side may have an advantage depicted by some aggregate measure may be less important than the fact that the advantage is increasing or decreasing, and both considerations may be less important than the fact that the rate of change in those relative capabilities is high.

This argument can be broken down into four general propositions: (1) current perceptions of the balance are influenced less by assessments of current capabilities than by assessments of the direction and rate of change in relative capabilities in the recent past; (2) assessments of who is likely to be "ahead" in the future, conditioned by past trends and by current weapons development programs, may be more important than current capabilities in influencing perceptions of the balance; (3) there is a strong tendency to *discount lead times* in weapons development and deployment, to assess current forces as though new systems only approaching the deployment stage are, effectively, fully deployed such that a potential, future state of the balance becomes a measure of the current balance; and (4) there is a strong tendency to *assign weight disproportionately to technological breakthroughs*, to interpret those developments as indicators of general technological superiority and, whether or not the weapons development may significantly affect the overall balance of forces, to assign greater weight to technological breakthroughs than to other measures for improving relative strategic capabilities.

These propositions suggest that, in addition to evaluating current capabilities in terms of aggregate measures, evaluations of the "political" balance should include: (1) trends in relative strategic capabilities in terms of aggregate measures, (2) rates of change in relative capabilities for the recent past and as projected for the near-term future, and (3) the relative rate of technological change in new strategic weapon systems. The last factor is, of course, very difficult to measure with any precision. However, the still-limited evidence suggests that it is only apparently dramatic technological advances that have significant impact on perceptions of the balance and this allows more confident qualitative assessments.

In the spirit of the "essential equivalence" concept, the above factors could be translated into several conceptual criteria for evaluating the "political" balance: one might be labelled "long-run equivalence" to capture the importance of past and projected trends in relative, aggregate strategic capabilities; the second criterion might be labelled "equivalent rate of change" in the basic measures of strategic capabilities and in the development of significant technological innovations. As with essential equivalence, the requirement for an effective balance of forces would not be equality in all of the dimensions of strategic capabilities comprised in long-term trends or in shorter-term

rates of change in capabilities. The requirement is only that there not be significant asymmetries in the strategic force attributes related to these general criteria. In addition to the latitude allowed in interpreting strategic capabilities in terms of each of these criteria, there is also latitude in the fact that these multiple criteria not be simultaneously satisfied. While it might be preferred to have rough equivalence in terms of the three criteria at any point in time, the fact that the weapons development and acquisition cycles in the United States and Soviet Union are not necessarily synchronous makes this preferred condition improbable.

An acceptable set of conditions, for example, might find the United States at a disadvantage in terms of current capabilities as defined by essential equivalence and in terms of unfavorable trends in relative capabilities, but could offset these considerations with the development of technologically more sophisticated systems with more vigorous weapons acquisition programs in order to project relatively more rapid rates of change in strategic capabilities. An intolerable position for the United States would be a situation—with or without essential equivalence—in which the Soviets enjoyed a current position reflecting favorable long-term trends in relative capabilities, very favorable rates of change in relative capabilities in the recent past and projected for the near future, and an apparent advantage both in the development of technologically advanced systems and in the number of new systems.

IV. MEASURING STRATEGIC CAPABILITIES: THE ALTERNATIVES AND THEIR LIMITATIONS

The current strategic debate has revealed increasing critical attention to the reliability of strategic balance assessments given their implications for SALT positions, and for judgments about imminent and major US strategic weapons system choices. The different positions taken in that debate are, to a considerable extent, based on the use of different methods for assessing relative US-Soviet strategic capabilities. Given the importance of the issues and the role of strategic balance assessments in treating those issues, it is important to determine the relative merits of the various methods and measures for assessing strategic capabilities and the degree of confidence that can be placed in any of those methods and measures.

Assessments of strategic capabilities take one of two general forms. One focuses on aggregate or "static" measures of particular force posture attributes such as megatonnage, number of warheads, or throw-weight. The other employs dynamic analysis of hypothetical nuclear attacks against various target sets to determine the potential effectiveness of the force in various scenarios. Over the last few years a number of new aggregate measures have emerged which are intended to capture more specific types of capabilities, such as hard target kill capability (e.g., countermilitary potential or CMP). Similarly, there have been advances in dynamic analysis methods intended to include more precise calculations of weapons effects and force operations constraints (e.g., fratricide). Though aggregate measures remain a prominent element of the debate over relative US strategic capabilities and force requirements, it is generally assumed that the more sophisticated analysis provided by dynamic methods is more precise and reliable. On the other hand, aggregate measures have the virtues of being simple, straightforward, and easily understood and of being easily and "cheaply" calculated.

Though there are a variety of aggregate measures and an even larger number of analytic models for performing dynamic analyses of hypothetical strategic attacks, all of

those measures and analytic models suffer from the common limitations listed in Table 1.

Table 1

COMMON LIMITATIONS OF MEASURES OF STRATEGIC CAPABILITIES

Limitations of Aggregate Measures

- Ignore particular distribution of aggregate capabilities among strategic force elements
- Ignore relationships between forces/targets/scenarios
- Ignore uncertainty
- Ignore operational constraints

Limitations of Dynamic Analyses

- Ignore uncertainties in weapons/target parameters
 - Uncertainties in modelling procedures
 - Dominance of scenario assumptions
 - Questionable evaluation criteria
-

Current forms of aggregate measures suffer from the fact that they do not reflect the diversity of system capabilities within the strategic force posture. Totalling such attributes as megatonnage or throw-weight across all strategic forces obscures the fact that different force elements are intended to perform different missions, are subject to different types of operational constraints (e.g., command-control uncertainties for the SLBM's, or penetration uncertainties for the bombers), are available in uncertain quantities depending on scenario assumptions, and are optimally configured to attack different target types. While aggregate measures, as currently formulated, fail to take account of any of these factors, we will demonstrate how they can be reformulated to deal with some of these limitations.

Given the previously noted limitations common to all of these measures in greater or lesser degree, our evaluation of these measures will find them falling into one of four categories:

1. *Inappropriate Index.* The aggregate measure either does not reflect a force attribute that is a relevant index of one of the three categories of capabilities defined above or is subject to such large and nonsystematic estimation errors as not to be useful for comparing capabilities.

2. *Biased Index.* The aggregate measure systematically over- or underestimates actual capabilities because of the particular method of calculation or because of the failure to take account of constraints on optimal weapons performance.

3. *Misleading Index.* The aggregate measure may capture and appropriately measure a relevant attribute of the strategic forces but, because of asymmetries in the target bases of the United States and Soviet Union or in the configuration and specialization of their respective force postures, the measure can suggest either equalities or inequalities between the two forces that don't exist in fact. That is, because aggregate measures focus on one or a very few force parameters, they ignore the possibility of basic

differences in other parameters that may be more significant in determining actual operational capabilities.

4. *Nonscaling Index.* An aggregate measure may increase or decrease monotonically with the capability it is supposed to measure but may not scale as a linear function of the capability in question. That is, there may be decreasing marginal returns in adding an additional unit of a particular force capability but aggregate measures, in general, treat each additional unit as having the same value as all other units.

Unlike the simple models of strategic capabilities used to calculate aggregate measures, dynamic force exchange calculations attempt to take account of a broad range of weapon system attributes and scenario conditions, thereby appearing to provide more "realistic," if not more accurate estimates of strategic capabilities. However, dynamic calculations also suffer from a number of limitations. The most important of these limitations is the fact that current methods do not take adequate account of the range of uncertainties in weapons system capabilities, in weapons effects, and in the ability to employ the force effectively. Instead, the typical approach is to assign point estimate values for parameters that are frequently subject to considerable uncertainty. The dimensions of the task of treating uncertainties systematically is suggested by Table 2 which lists some of the major uncertainties affecting assessments of strategic capabilities. The failure to treat systematically the uncertainties in inputs to dynamic analyses is exacerbated by the fact that the analytic models employed are themselves of uncertain quality. Precise calculations of many weapons effects or of constraints on efficient force employment are limited by gaps in knowledge about the processes involved or gaps in available data necessary to model those processes with precision. The potential significance of modelling error is suggested by Figure 1, which approximates the results of an ongoing effort to parameterize the modelling uncertainty in standard prompt weapons effects (only) against point targets. Not only does that figure suggest the potentially wide range of uncertainty in our ability to model prompt weapons effects but it also indicates that the degree of error varies with the effectiveness of the weapons against particular targets. Modelling uncertainties are less significant (in an absolute sense) when weapons are very effective or very ineffective than they are when weapons are modestly effective. In the range where kill probabilities are calculated to be 50 percent, the associated confidence interval is 30 to 70 percent.

V. ESTIMATING COUNTERFORCE CAPABILITIES

The dominant issues in the current strategic debate are whether the Soviet Union is acquiring an effective, first strike counterforce attack capability and whether the United States should itself substantially improve its counterforce capabilities. In the debate on these issues, three aggregate measures have been employed as indicators of relative counterforce capabilities in addition to dynamic force exchange calculations. Those aggregate measures include: (1) countermilitary potential (CMP, calculated as $\frac{Y^{2/3}}{CEP^2}$); (2) throw-weight calculated as the combination of the weight of ICBM warheads and of bomber payloads;¹³ and (3) 2500 psi kills, or the number of point targets of 2500 psi (pounds per square inch) hardness that can be destroyed by a given force. An examination of these measures and of standard forms of dynamic analyses suggests not only the limitations of these measures but also suggests much about what attributes of the strategic forces may be most critical in determining counterforce capabilities.

Table 2

UNCERTAINTIES AFFECTING DYNAMIC MEASURES OF STRATEGIC CAPABILITIES

1. Uncertain Weapons Parameters

- | | | |
|---------------------------|----------------|----------------------------------|
| —Yield | —Availability | —Retargeting time |
| —Accuracy | —Range | —Support system performance |
| —Reliability | —Launch rate | —Warhead loadings |
| —Systematic
bias error | —Reprogramming | —Height of burst
on airbursts |

2. Uncertain Force Employment Parameters

- | | |
|--------------------------|-------------------------------|
| —Prelaunch survivability | —Command-control connectivity |
| —Penetration probability | —Reconnaissance |
| —Fusing/burst height | —Fratricide |

3. Uncertain Scenario Conditions

- | | |
|------------------|--------------------|
| —Warning | —Attack timing |
| —Alert level | —Attack objectives |
| —Scale of attack | |

4. Uncertain Target Parameters

- | | |
|---------------------|---------------------|
| —Hardness/shielding | —Mobility |
| —Size and shape | —Value |
| —Location | —Climate conditions |

5. Uncertainties Due to Modelling Deficiencies

- | | |
|------------------|------------------|
| —Prompt effects | —Radiation level |
| —Fallout effects | —Fratricide |
-

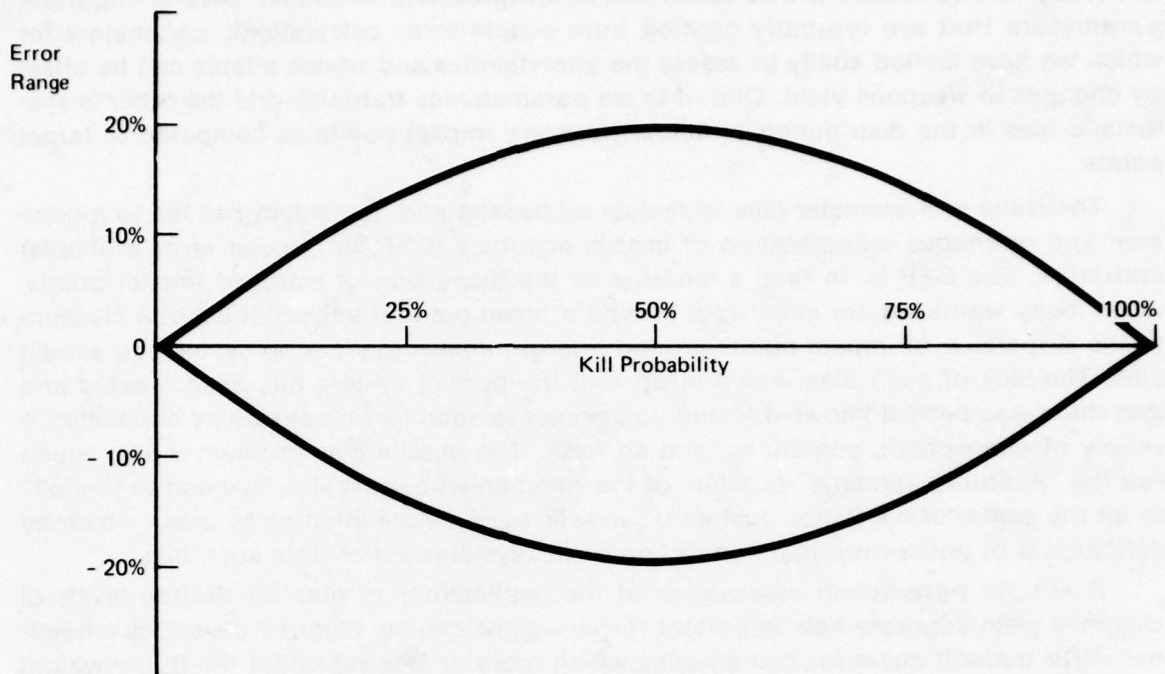
Inappropriate Measures: 2500 PSI Kills and Throw-weight

Beginning with the 2500 psi kill measure we find an almost classic form of biased index. This measure is calculated by assigning only one warhead to each hypothetical target and adding up the total number of expected "kills." For this procedure to provide reasonable estimates of actual capabilities it must be assumed that the number of hard targets on the opposing side is equal to or greater than the number of weapons available, that the hardness of all targets is approximately 2500 psi, and that all weapons are used in counterforce attacks. If there are fewer targets than weapons, or if target hardnesses are greater than 2500 psi, then this index systematically overestimates hard target kill capabilities. If target hardness is less than 2500 psi, then kill probabilities of each weapon will be higher, and this index will systematically underestimate actual counterforce attack capabilities. Additional bias can be introduced by the methods used for calculating the number of kills. Whether one uses simple expected value calculations or some more sophisticated model will affect the results as will the values assigned to weapons parameters.

Total throw-weight is a simpler measure of counterforce effectiveness but it is also an inappropriate measure of this capability. While ICBM throw-weight is an interesting

Figure 1

UNCERTAINTY RANGES FOR PROMPT KILL PROBABILITIES



measure of the potential for expanding the number of warheads on missile systems, the number of warheads is not the dominant factor in determining counterforce capabilities; the dominant factor is warhead accuracy. Furthermore, the practice of including bomber payloads in the calculation of "throw-weight" removes even the benefit of this index as a measure of potential for expanding the number of warheads. While it is conceivable that bombers will be used in counterforce attacks, the slow speed with which they can carry out an attack removes them from consideration as a time urgent or first strike counterforce weapon.

To say that throw-weight is not an appropriate measure of actual counterforce capabilities does not mean that it is unimportant in any assessment of relative counterforce capabilities. Paul Nitze, who has argued forcefully for placing greater emphasis on the throw-weight index, contends that in the future the accuracies of US and Soviet forces will converge. Therefore, the side with greater throw-weight will be able to generate more and larger yield weapons and this fact will provide that side with greater counterforce capabilities.¹⁴ Jan Lodal countered this argument with the contention that because future missile accuracies will not only be relatively equal but will also be sufficiently high, even small weapons will be lethal counterforce instruments. Because weapons yield will not be a critical factor and because both sides will have plenty of weapons, throw-weight differentials will not matter.¹⁵

The counter to Lodal's argument begins with the observation that yield per weapon can be an important hedge against uncertainties in such parameters as accuracy. In a world where all other weapons attribute parameters were "equal" in the sense that the uncertainty ranges for each parameter perfectly overlapped, the side with greater yield per

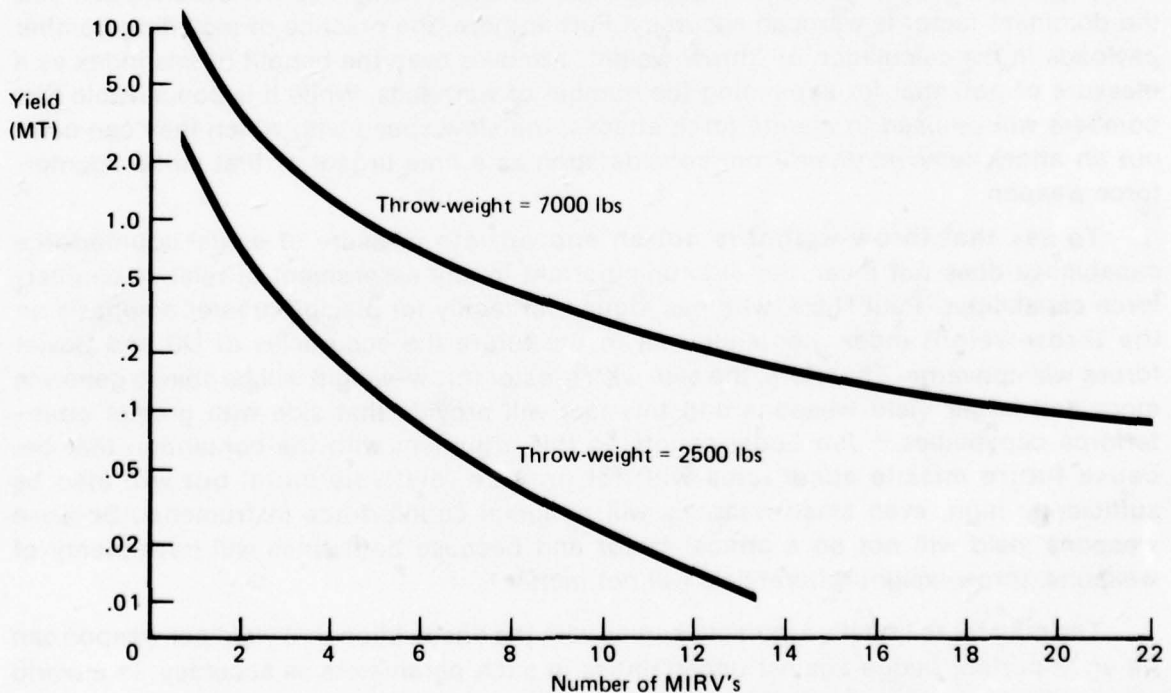
weapon would be less sensitive to those other uncertainties. And it should be pointed out that yield itself is an uncertain parameter. Furthermore, the focus on the yield-accuracy mix reflected in the Nitze-Lodal disagreement overlooks several important parameters that are typically omitted from counterforce calculations, parameters for which we have limited ability to assess the uncertainties and whose effects can be offset by changes in weapons yield. One of those parameters is fratricide and the other is systematic bias in the distribution of actual weapons' impact points as compared to target points.

The issue of systematic bias is seldom addressed and its neglect has led to a common and erroneous interpretation of missile accuracy (CEP, or circular error probable) statistics. The CEP is, in fact, a measure of the dispersion of warhead impact points, when many warheads are employed, around a mean point of impact. It is not a measure of the dispersion of impact points around a target unless there is no systematic aiming bias. The lack of such bias would mean that the perfect system has been created and that there was perfect knowledge and adjustment to such factors as gravity anomalies, a variety of atmospheric conditions, and so forth. The missile bias problem is very much like the "Kentucky windage" problem of the rifleman who must aim "low and to the left" to hit the center of his target. Just as US missile systems are affected by bias—which by definition is of unknown origin—so too do Soviet systems suffer from such bias.

A simple parametric assessment of the implications of bias for desired levels of weapons yield suggests how important throw-weight can be. Figure 2 describes a nominal MIRV tradeoff curve for two missiles which more or less represent the throw-weight of the SS-19 and the Minuteman III.¹⁶ Given these numbers of warheads and yield trade-

Figure 2

MIRV TRADEOFF CURVES



offs we can assess the impact of bias. In Figure 3, a Minuteman III force of 550 missiles is targeted against 1100 Soviet silos with a hardness of 1600 psi. For Minuteman missiles with a CEP of 1200 feet, it can be seen that the effects of bias, whether bias is 300 feet or 1200 feet, do not matter significantly, given that the total counterforce potential of the force is limited. However, if CEP's are reduced to 300 feet, then bias matters a great deal. If the aiming bias is as much as 1200 feet, then a small yield weapon has the virtue of being "precise" in terms of CEP but also of precisely missing the intended target most of the time. Only when yields reach the level of about 1 megaton do the expected number of "kills" reach the level of a missile with a CEP of 1200.

Figure 3

YIELD-BIAS RELATIONSHIP FOR MINUTEMAN III

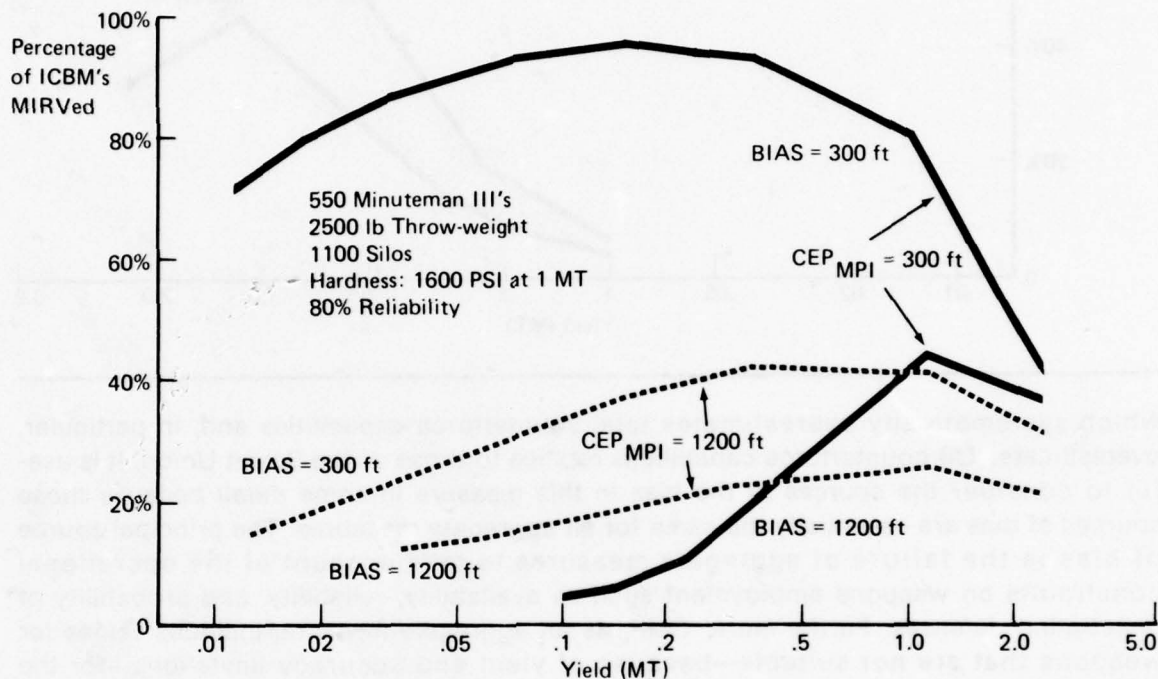


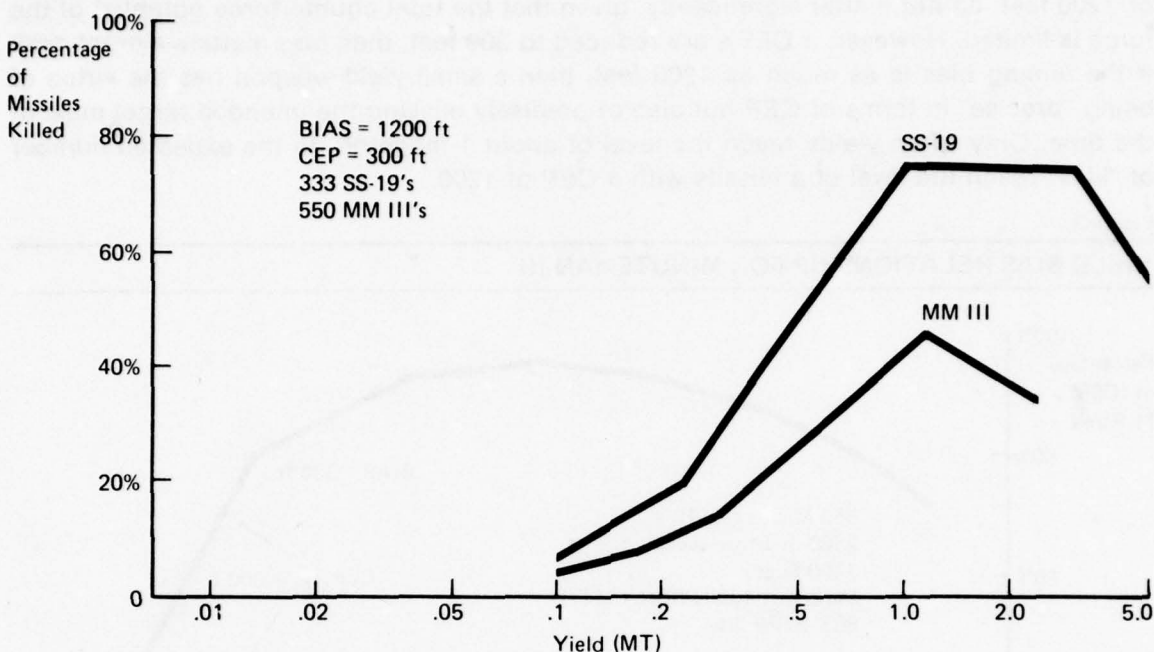
Figure 4 compares the postulated Minuteman III force with a 1200-foot bias to a postulated Soviet SS-19 force with the same bias and the same CEP of 300 feet. In the range of current Minuteman yields, the expected number of kills is very much lower than the expected kills by the SS-19 with current yields. An interesting aspect of all of the curves on Figures 3 and 4 is that a 1-megaton yield is about optimal for both the Minuteman and SS-19 forces, irrespective of the particular yield and bias. In any case, unless the United States can be confident that the aiming bias of its missiles is relatively small, the Soviet throw-weight advantage can be translated into a much higher confidence counterforce capability.

A Biased Measure: CMP

Counter military potential, or CMP (also referred to as "lethality"), is a widely used aggregate measure of counterforce capabilities. It is a significantly biased measure

Figure 4

COMPARISON OF MINUTEMAN III AND SS-19: TRANSLATING THROW-WEIGHT TO HARD TARGET KILLS



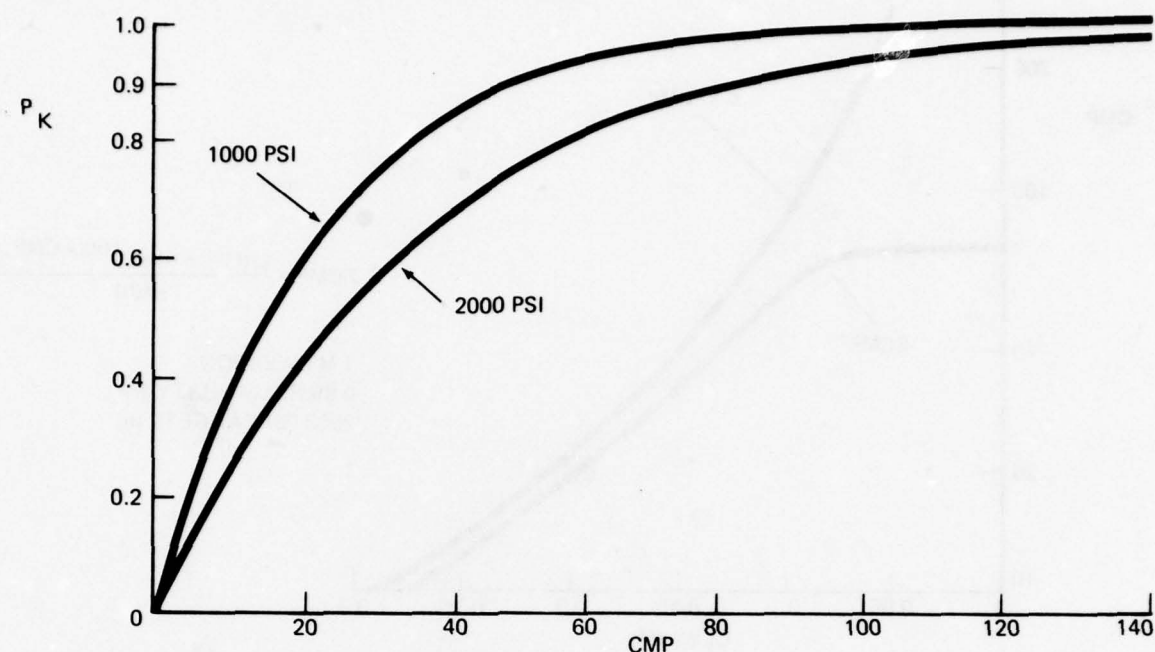
which systematically overestimates total counterforce capabilities and, in particular, overestimates US counterforce capabilities relative to those of the Soviet Union. It is useful to consider the sources of the bias in this measure in some detail because those sources of bias are essentially the same for all aggregate measures. The principal source of bias is the failure of aggregate measures to take account of the operational constraints on weapons employment such as availability, reliability, and probability of penetrating defenses. Furthermore, CMP, as an aggregate measure, includes values for weapons that are not suitable—because of yield and accuracy limitations—for the purpose of counterforce attacks.

These considerations are illustrated in Figure 5, in which CMP values are related to kill probabilities against 1000 psi hardened and 2000 psi hardened targets. In the case of both target types, CMP values beyond 120 add very little if any benefits as that value is associated with a kill probability of virtually 100 percent. This observation suggests two central problems with the CMP measure: as weapon system accuracies get very small, CMP values can approach infinity, a value difficult to rationalize; and, furthermore, even relatively small CMP values can be associated with kill probabilities approaching 100 percent though the probability of the weapon actually reaching a target, given considerations of weapon reliability, penetration probability, etc., may be much less than 100 percent. It is, for example, impossible for a weapon system to have a higher kill probability than it has a probability of operating reliably, but CMP, by ignoring operational constraints on weapons performance, allows the kill probability to be higher.

It is however, possible to correct CMP to account for delivery probability and, thereby, to remove a major source of bias in the measure. Because the SALT I denial of

Figure 5

HARD TARGET KILL PROBABILITY (P_K) AS A FUNCTION OF COUNTERMILITARY POTENTIAL (CMP)



ABM's has removed the major penetration problem for ICBM's, ICBM reliability is the major remaining operational constraint affecting ICBM delivery probabilities. Therefore, we have reformulated CMP to make its maximum value asymptotic to its probability of reliable delivery (other operational constraints could also be included by calculating a joint probability) as shown in the formula given in Figure 6, which reveals an index we will call "effective CMP" or ECMP. Figure 6 compares CMP values corrected by the simple procedure of multiplying CMP by the delivery probability (r) to ECMP values for varying missile accuracy. The CMP curve shows that CMP significantly overestimates kill probability when missile accuracy improves to about .15 nautical miles CEP or less. If *not* corrected by the simple procedure of multiplying by the delivery probability, the CMP produces even more significant overestimates.

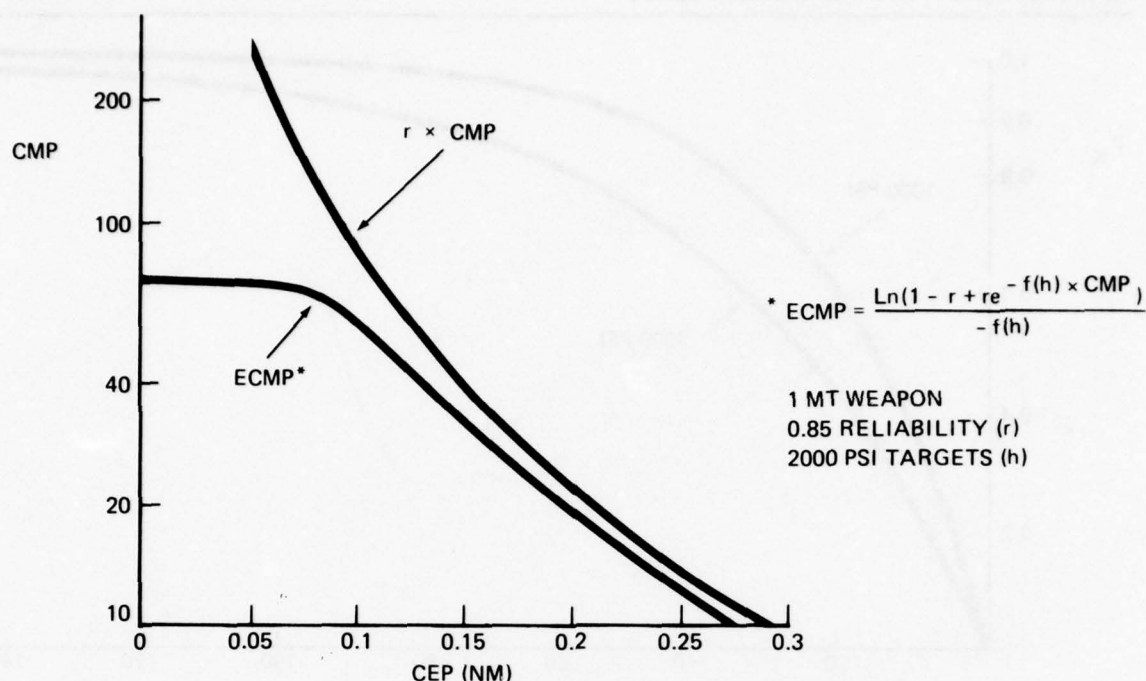
Thus, using ECMP to correct the overestimates of both missile and bomber capabilities to kill hard targets, the comparison of US and Soviet counterforce capabilities changes dramatically. Figure 7 compares the long-term trends of US and Soviet counterforce capabilities using both CMP and ECMP. As suggested before, in the period when effective counterforce attacks were not possible, CMP and ECMP do not reveal significantly different trends. However, by 1980 when both the United States and the Soviet Union will have deployed more accurate MIRV systems, the trends diverge significantly; and there is no apparent, significant advantage for the United States using the ECMP measure.

Dynamic Methods: Errors in Exchange Modelling

As we have argued previously, dynamic methods of assessing strategic capabilities suffer in particular from a failure to take account of the substantial uncertainty inherent

Figure 6

EFFECTIVE CMP: CORRECTING CMP FOR DELIVERY PROBABILITY



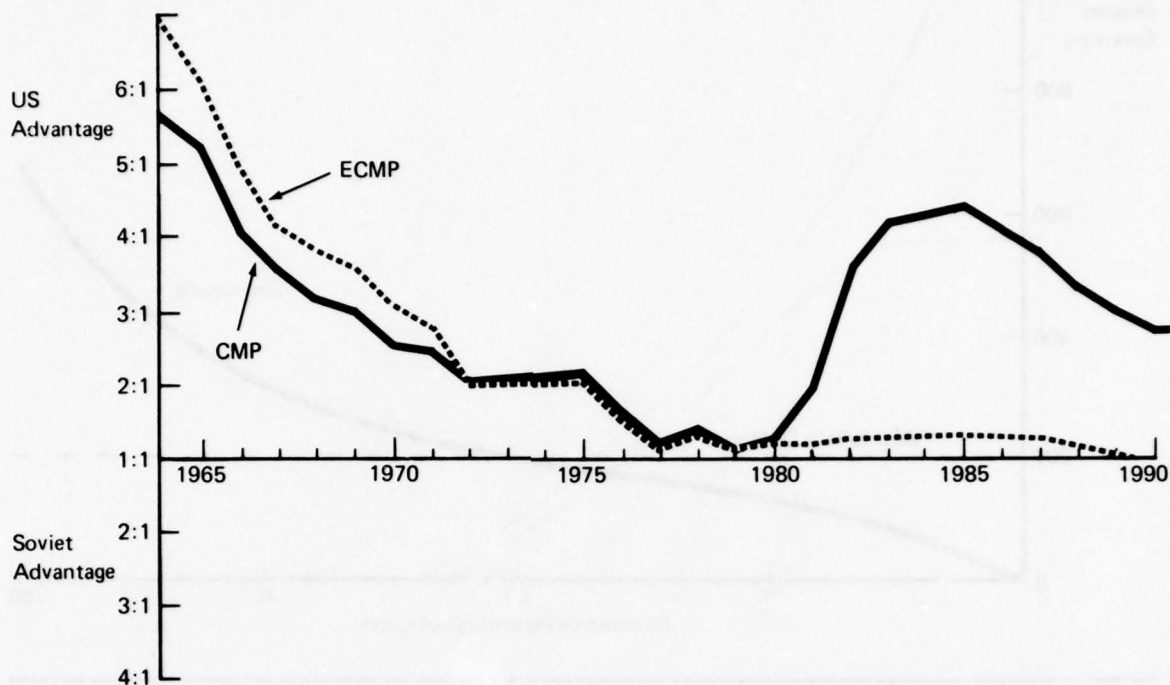
in our knowledge of the actual values for various weapons and weapons effects parameters. The typical method used in dynamic calculations is to pick a single point, "best estimate" for each of the relevant parameters and, on the basis of these best estimates, to perform statistical analysis to determine the "most likely" outcomes of various kinds of hypothetical strategic exchanges. A preferred method is one which simultaneously takes account of the uncertainties in all of the weapons parameters and produces analytic outputs that reveal the full range of possible outcomes given the uncertainties.

To illustrate the potential importance of performing this type of analysis we have compared a typical "best estimate" calculation of a projected mid-1980's Soviet counterforce attack to the results of a Monte Carlo simulation that not only takes account of the uncertainties in input parameters, but also reflects those uncertainties in the outputs of the analysis in the form of a cumulative probability distribution. This probability distribution represents a smoothed curve determined by a number of simulated attacks in which input parameters are varied by Monte Carlo sampling across the range of possible values for each parameter (Figure 8). The curve can be read as indicating the probability of a given level of missiles surviving a Soviet counterforce attack. In this example, a 50 percent probability is indicated that no more than 200 US missiles will survive (i.e., in 50 percent of the simulated cases less than 200 missiles survived) and a 75 percent probability is indicated for fewer than 350 missiles surviving.

The "most likely outcome" calculation of this hypothetical attack indicates that some 200 US ICBM's should survive, a number which might be acceptable depending on retaliatory attack requirements. However, the simulation results indicate that as few as 30

Figure 7

LONG-TERM TRENDS IN RELATIVE US-SOVIET COUNTERFORCE CAPABILITIES USING CMP AND ECMP AS MEASURES



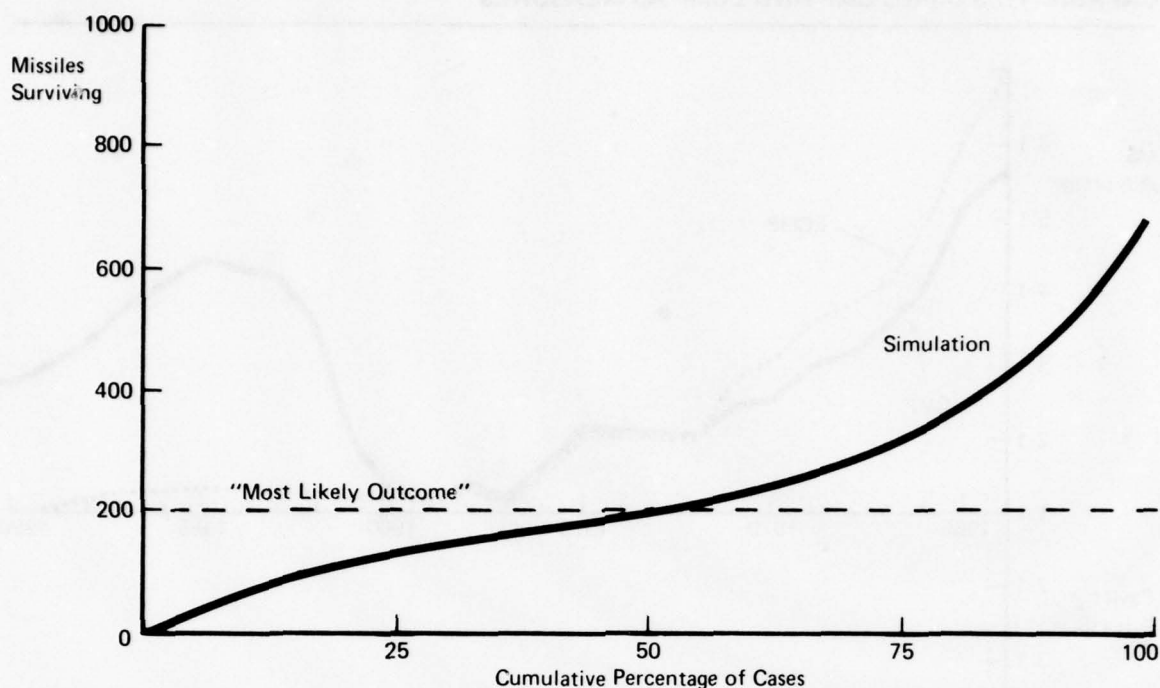
missiles may survive or as many as 650. The wide range depicted by this curve indicates the degree of risk for the United States as well as for the Soviet Union in contemplating such an attack. Simply focusing on the single-point, "most likely outcome" not only runs the risk of focusing on an inaccurate estimate but also ignores the considerable sensitivity of the analytic results to the uncertainty in the input parameters.

The role of uncertainty has been emphasized by some policy advocates who suggest that the United States need not react strongly to apparent indicators of rapidly improving strategic capabilities. Conservative planners on the Soviet side, they argue, will be forced to take account of uncertainty and the uncertainty regarding actual strategic attack capabilities is sufficiently great that they cannot reach a high confidence assessment of attack outcomes. However, it is also possible to misuse uncertainty analysis and suggest that the problem for the Soviets is greater than it actually is. This arises in particular from a failure to examine fully the possible hedges that can be taken to minimize uncertainty.

An example of these potential pitfalls is the analysis of the effects of fratricide by Steinbruner and Garwin. That analysis is commendable for its unusual effort to assess the role of uncertainty, but the conclusions of the analysis are placed in question by their failure to take account of the full range of tradeoffs and hedges open to the Soviets. The authors do take account of the tradeoffs in the characteristics of the attack—scale, timing, and targeting sequence—but they fail to examine fully the tradeoffs between the characteristics of the attack and the types of weapons employed.

Figure 8

IMPACT OF UNCERTAINTY ON ICBM SURVIVAL



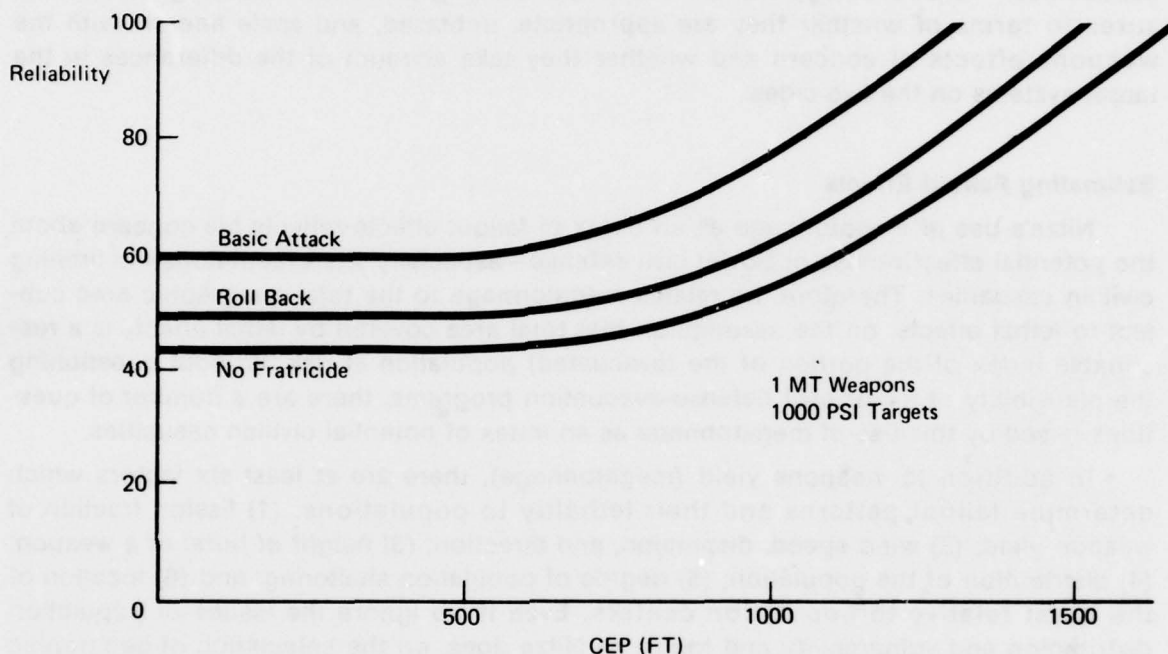
In formulating their base line analysis, Steinbruner and Garwin stipulate point estimates for basic weapons performance characteristics and implicitly assume that they will not change over time. Soviet weapons CEP is assumed to be 1200 feet and weapons reliability is assumed to be 67.5 percent (75 percent launch and in-flight reliability and 90 percent warhead reliability). Fusing options other than ground bursting are denied as unreliable and very short time-on-target intervals are assumed to be impossible. Whatever the merits of these latter two assumptions, it is not at all clear why it should be assumed that Soviet CEP's cannot improve below 1200 feet or why a reliability of 67.5 percent is a better estimate than any other or cannot be altered over time. Having made these assumptions, the problem is reduced to one of examining the potential effectiveness of a limited number of remaining attack options. The authors postulate four attack types: (1) a "basic attack" in which no effort other than delaying subsequent attack salvos is made to minimize fratricide; (2) a "reprogrammed attack" in which additional missiles are rapidly substituted for missiles experiencing failure at launch or in the boost phase; (3) a "rollback attack" in which the attack proceeds sequentially from the most southerly and downwind to the most northerly and upwind silos to minimize fratricide; and (4) a combined "reprogramming and rollback attack."

Given the assumed constraints on force operations, the analysis finds none of these attack options promising. The authors then offer two alternative Soviet force postures which they describe as the "high accuracy, low yield" threat and the "high accuracy, medium yield threat." These might be taken to be an examination of the effects of variability in weapons performance characteristics but the values chosen are peculiarly inefficient for any counterforce attack scenario.

An illustration of how those factors are related is given in Figure 9. The calculations accept the basic assumptions of Steinbruner and Garwin of targets of 1000 psi hardness, four warheads of 1-megaton yield per silo, and a 90 percent force destruction requirement. Each of the curves represents a different attack mode and indicates the minimum values for reliability and CEP necessary to achieve 90 percent force destruction. The bottom curve represents the case where no fratricide effects are assumed to operate.

Figure 9

ACCURACY AND RELIABILITY VALUES ASSOCIATED WITH 90 PERCENT FORCE DESTRUCTION



It is evident from these curves why the Steinbruner and Garwin analysis led to unpromising outcomes for the postulated Soviet counterforce attacks. For example, the assumptions of 67.5 percent reliability and 1200 feet CEP find the Soviets falling just short of the 90 percent criterion in the "rollback attack" mode and well short of the criterion in the "basic attack" case. However, relatively small improvements in either reliability or accuracy (or both) find the "rollback attack" effective and the "basic attack" is effective if accuracies reach 1000 feet CEP and only 76 percent reliability. Steinbruner and Garwin effectively disguise this relationship by considering improved reliability and accuracy only in the context of very much lower yield weapons. Again, this reflects the problem of analysis of alternative scenarios where input parameters are assumed to be fixed for each scenario. The consumer of the analysis is left unaware of how sensitive the outcomes are to variability in the input parameters.

VI. ESTIMATING URBAN-INDUSTRIAL DAMAGE

In a recent article assessing the strategic balance, Paul Nitze argued that the various aggregate measures of urban-industrial damage potential should be interpreted in the following manner:

(1) Megatonnage (MT) is the best indicator of fallout effects (and, therefore, of total population fatalities). (2) Equivalent megatons (EMT) is the best indicator of blast damage effects (and, therefore, of damage of industrial facilities). (3) Throw-weight (TW) is "the best overall measure of the countervalue potential of a strategic force." And (4) equivalent weapons (EW) is "the most useful static index . . . of a strategic force," encompassing both urban-industrial damage potential and counterforce attack capabilities.¹⁷ Nitze's categorization is a useful starting point for assessing these measures in terms of whether they are appropriate, unbiased, and scale linearly with the weapons effects of concern and whether they take account of the differences in the target systems on the two sides.

Estimating Fallout Effects

Nitze's use of megatonnage as an index of fallout effects reflects his concern about the potential effectiveness of Soviet civil defense—especially city evacuations—in limiting civilian casualties. Therefore, he relates megatonnage to the total geographic area subject to lethal effects, on the assumption that total area covered by lethal effects is a reasonable index of the portion of the (evacuated) population at risk. Without questioning the plausibility of major civil defense-evacuation programs, there are a number of questions raised by this use of megatonnage as an index of potential civilian casualties.

In addition to weapons yield (megatonnage), there are at least six factors which determine fallout patterns and their lethality to populations: (1) fission fraction of weapon yield; (2) wind speed, dispersion, and direction; (3) height of burst of a weapon; (4) distribution of the population; (5) degree of population sheltering; and (6) location of the burst relative to population centers. Even if we ignore the issues of population distribution and vulnerability and focus, as Nitze does, on the calculation of geographic area subject to lethal effects, then yield is still only one of four factors affecting fallout effects. Only if we assume that all weapons are groundburst, that they have a constant fission fraction, and that wind direction, dispersion, and speed are constant will the area subject to lethal effects scale relatively closely with the total megatonnage.

But all of these considerations are dominated by the questionable validity of the assumptions implicit in an index focusing on lethal area subject to fallout. For the index to be at all useful it must assume that population is evenly distributed in the area subject to fallout, and that the weapons are burst in a manner which optimally exposes population to fallout without overlapping fallout effects from multiple weapons. Furthermore, consider the implications of allocating 100 total megatons in one of two possible force configurations: one comprised of five 20-megaton weapons, and a force of one thousand 100-kiloton weapons. They will expose roughly the same area to lethal fallout effects, all other things being equal; but, unless the same percentage of population is contained within the area subject to five large nuclear explosions as will be exposed to 1000 separate nuclear bursts, then there is no effective comparability. If populations are very concentrated, or are evenly distributed over the entire nation, then this consideration may not pose a problem; but neither of these assumptions hold for the Soviet Union.

Throw-weight: An Inappropriate Index of Countervalue Potential

The problems with estimates of fallout effects are probably better appreciated than are the problems associated with estimating other forms of countervalue damage potential. Yet, the estimation problems in other areas are not that fundamentally different. This point is underlined in examining Nitze's proposition that throw-weight—including bomber loadings as well as missile warhead payload—is "the best overall measure of countervalue potential." This assertion is consistent with the emphasis given to this measure by Nitze and other critics of the SALT agreements that have left the Soviet Union with a significant throw-weight advantage.

Yet, it is not at all clear how this assertion can be true if Nitze's arguments about other aggregate measures are valid. For example, throw-weight will scale closely with megatonnage—Nitze's measure of fallout potential—only if single warhead missiles are employed. As missile throw-weight is consumed by increasing numbers of warheads per missile, the total megatonnage per missile will decline. Therefore, in a world of MIRV's, throw-weight must not be a good measure of fallout potential if megatonnage is considered to be a good measure of that potential.

Similarly with blast effects, throw-weight cannot be a good measure if EMT is considered a good measure of those effects as Nitze argues. Again, if ICBM's were limited to single warheads, throw-weight would scale closely with EMT. But, once MIRV's are introduced, throw-weight can diverge significantly from total EMT per missile, with the degree of divergence being a function of the total throw-weight of the missile. When these differences between throw-weight and EMT per missile are summed across the entire missile force, the aggregate differences can be very large indeed.

EMT: A Biased Measure of Potential Blast Effects

Our criticism of throw-weight as a measure of blast against urban-industrial targets was based on the fact that throw-weight does not scale with EMT in the case of MIRV missile systems. It is now necessary to demonstrate that EMT is at least a more appropriate measure of blast effects than is throw-weight, and if possible, to demonstrate how the EMT measure can be improved, both in its formulation and its use in analysis, to make it a reasonably good measure by absolute standards. In this regard it is important to note that EMT is a far more flexible measure than throw-weight (or any other measure of urban-industrial damage potential) because it can be adjusted to take account of the varying characteristics of both targets and weapons types. However, as normally formulated, EMT is a significantly biased measure of aggregate capabilities; the burden of the following discussion is to demonstrate how EMT can be reformulated to reflect actual urban-industrial damage potential more accurately.

The normal formulation of EMT ($EMT = Y^{2/3}$) reflects the fact that the area subject to lethal blast effects scales with the yield of a weapon, but also accounts for the fact that a significant portion of the weapons effects are harmlessly directed upward into the atmosphere rather than laterally (or downward). Of course, this formulation also assumes that the resulting lethal area of a weapon is not larger than a potential target area or else there is "excess" blast damage being included in the calculation. In fact, the relatively large weapons possessed by both the United States and the Soviet Union will tend to produce lethal blast areas that generally exceed the area represented by industrial targets. In this fashion, EMT exaggerates the industrial damage potential of both the

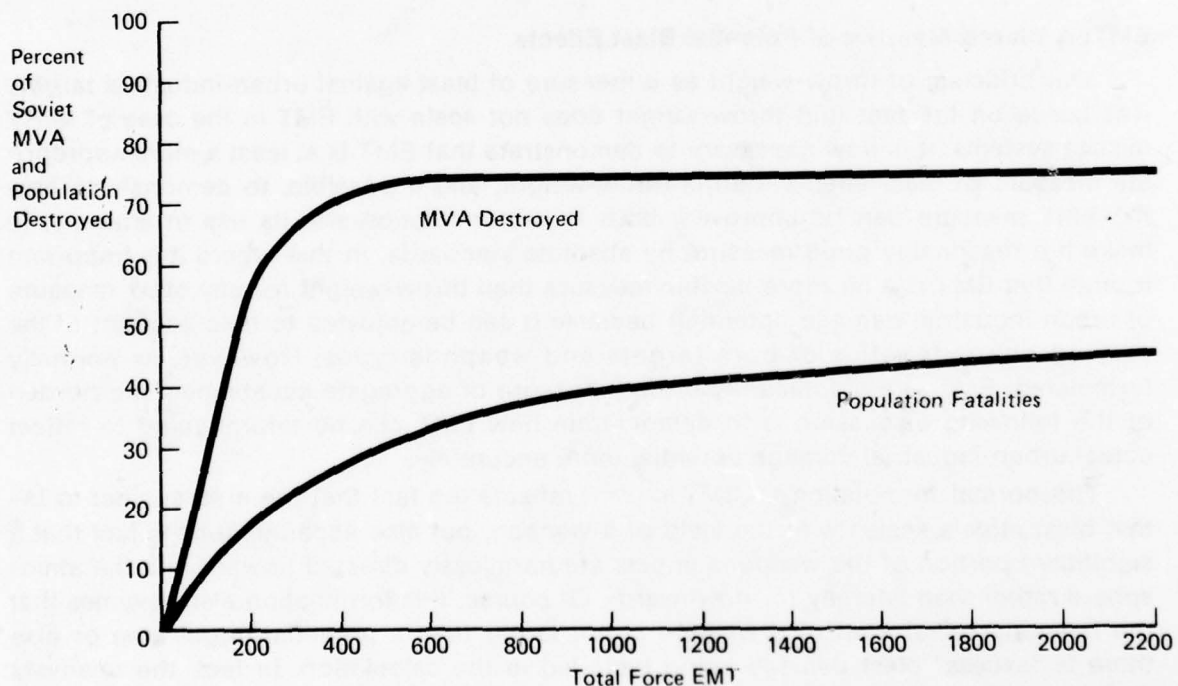
United States and the Soviet Union. This might be acceptable if the degree of exaggeration were equivalent for both sides. However, the size and dispersion of US and Soviet industrial targets tend to be quite different.

It is possible to adjust the EMT formulation to account for these factors. The method is to assign different exponential terms to the yield of US and Soviet weapons. Congressman Thomas Downey recently suggested that differences in the size of US and Soviet industrial targets should be reflected in an EMT value of $Y^{4/10}$ for Soviet weapons and $Y^{3/10}$ for US weapons. Simple reformulations of this kind, while possibly improvements on using the $2/3$ power of yield for both the United States and the Soviet Union, still produce a biased measure of relative capabilities. This conclusion arises from two considerations: first, the power of yield that should be used is not independent of the yield; and second, not all industrial areas are even roughly the same size or value.

Because aggregate force EMT can be directly related to aggregate, urban-industrial damage, the diagrammatic illustration of this relationship—as shown in Figure 10—has become a standard form of depicting the “sufficient” level of US strategic forces for threatening destruction levels necessary to ensure deterrence. This figure is often used to make the argument that the United States possesses “overkill” given that the curves indicate that most of the damage would be inflicted by a relatively small fraction of US delivered weapons. While we have already demonstrated that the standard formulation of EMT significantly misestimates EMT, those arguments only suggest that to deliver 400

Figure 10

RELATING EQUIVALENT MEGATONS (EMT) TO BLAST DAMAGE



Source: *US Commission on the Organization of the Government for the Conduct of Foreign Policy* (Washington, DC: Government Printing Office, 1975), Vol. 4, p. 139.

EMT requires more weapons than are normally assumed. The question remains whether a given level of EMT will, in fact, produce the damage assumed by these curves.

In the standard derivation of these curves, a number of biasing assumptions are made. First, the curves are based on calculations using 1-megaton yield weapons, in spite of the fact that the US force has relatively few weapons of that yield. Second, the curves assume that available weapons are allocated against targets in a perfectly optimal fashion. Third, the fact that the MVA curve becomes virtually flat at an MVA destroyed level of somewhat more than 75 percent strongly suggests that the data base employed in these calculations contains only that much of Soviet MVA.

However, US capabilities are significantly *overestimated* by the assumption of optimal weapons allocation. Even if the preattack allocation is optimal, there is no way of predetermining which weapons may survive a Soviet first strike or which weapons will operate reliably. Therefore, the assumption of optimal allocation applies only if it is possible to develop a comprehensive retaliatory attack plan and to retarget forces efficiently and effectively, based on (near) perfect information about what weapons survived, what weapons operate reliably, and how those weapons should be used to achieve optimality. This is obviously a very tall order, and one not likely to be achieved. To compensate for these problems it is necessary to allocate more than one weapon to each target and this means that a given level of EMT cannot achieve the projected damage expectancies shown in Figure 10.

EW: A Misleading and Biased Measure

Nitze referred to the "Equivalent Weapons" (EW) measure as the best overall measure of strategic capabilities because it incorporates both countervalue and counterforce targets within the calculation of aggregate damage potential. EW is the newest of the aggregate measures, having been recently introduced by Fred Payne.¹⁶ Because of its generality, this measure is likely to gain widespread use. It is important, therefore, to demonstrate that EW is both a seriously misleading index—failing to measure what it purports to measure—and very significantly biased—in particular by systematically overestimating the capabilities emphasized in the US strategic forces and systematically underestimating capabilities associated with Soviet forces.

EW is formulated according to the following general expression:

$$EW = \frac{1}{\frac{a}{P_{k_1}} + \frac{b}{P_{k_2}} + \frac{c}{P_{k_3}}}$$

- where
- a = the percent of soft point targets in the target system
 - b = the percent of soft area targets
 - c = the percent of hard point targets
 - P_{k_1} = the kill probability against soft point targets for a given weapon
 - P_{k_2} = the kill probability against soft area targets
 - P_{k_3} = the kill probability against hard point targets

Thus, EW is effectively a weighted harmonic average kill probability, with the weights being the percentages of each target type; or as Payne describes EW, it is "the capability of a weapon to kill with equal probability each type of target . . ."¹⁹ However, in practice, EW cannot be a weighted average kill probability. By assumption, the P_k against soft point targets is unity and the P_k against soft area targets, for a given weapon, is the EMT value of that weapon. It should be clear, first, that EMT is in no way a kill probability but, rather, a measure of lethal blast area irrespective of the point of impact of the weapon. Second, EMT can be, and often is, greater than unity. This allows EW to be greater than unity and such a value cannot logically be associated with a kill probability.

Unfortunately, this problem is the least of the problems associated with EW. The most important problems arise from the implied weapons allocation scheme of the EW formulation. To produce the results sought by Payne, each weapon type must be allocated against all target types such that the percentage of total target kills associated with each target category is the same as the preattack percentage of total targets contained in each category. That is, if the preattack target category percentages are 45 percent soft point area, and 10 percent hard point, then the allocation of each weapon type must result in 45 percent of the total kills falling in each of the soft point and soft area category and 10 percent in the hard point category. This means, for example, that weapons like the Soviet SS-18, which is particularly suited to attack hard point targets, will be allocated primarily against soft targets, while much smaller yield, less accurate US systems like the Poseidon will be used up trying to kill hard targets.

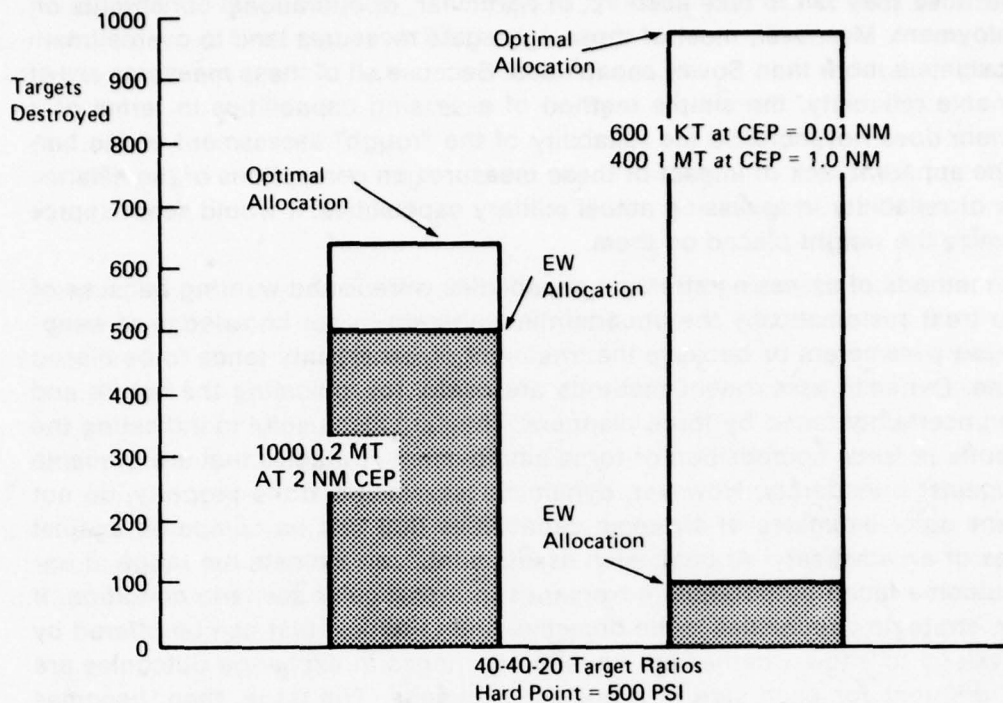
Moreover, because percentages of total targets, rather than absolute numbers of targets, are used, the implicit assumption is that all of the target systems are infinite in size. This happily allows avoidance of the problem of multiple weapons being allocated against the same target—a case in which the P_k would be different for the successive attack salvos, and, therefore, the EW calculation would be irrelevant. However, the infinite target set assumption also leads to the possibility of continuing to allocate weapons against nonexistent targets. Though the United States presents only 1,054 hard silo targets and a much smaller number of other hard targets, the Soviet force is allocated in a way that, even after the entire projected SS-18, SS-19, and SS-17 force is employed, SS-11's are allocated to hard targets which are unlikely to exist in significant numbers.

It should also be clear that the choice of target category ratios has a profound effect on the value of EW. Because relatively few weapons are effective against hard targets, while all weapons are assumed to have a P_k of 1.0 against soft point targets, a very small change in the percentages of these categories can have a large effect on EW.

The most important implication of this peculiar assumption about weapons allocation is that a force that is relatively uniform in weapons yield and accuracy, even if its capabilities against various target types are quite modest, will achieve higher EW values than a force that is "specialized" with weapons of quite different characteristics intended to be used against different target types. This outcome of the EW calculation is illustrated in Figure 11, in which two force configurations are compared in terms of expected target kills with optimal allocation and with the EW calculation. One force has 1,000 weapons all of .2 MT yield and .2 nautical mile (nm) CEP. The other force also has 1,000 weapons but 600 are small yield with very low CEP and 400 are high yield with a 1.0 nm CEP. For the first force, the kills resulting from an optimal allocation are somewhat more than the kills resulting from the EW allocation. However, for the second force, the difference between optimal allocation and the EW allocation is very great

Figure 11

EXPECTED TARGET KILLS USING THE EW CALCULATION



indeed. More importantly, the second force, when optimally allocated, results in far more kills than the first force; but the EW allocation produces far more kills with the first force than with the second. In short, EW can produce very misleading calculations of relative capabilities if the forces on each side are not uniform.

This fact explains, in large part, why EW is biased in favor of US strategic forces. US forces are simply more uniform, though not necessarily more effective, compared to Soviet forces. The United States has few large yield weapons and CEP values do not vary as widely across weapons systems as do Soviet forces. As a consequence, *EW will always overestimate relative US capabilities.*

VII. CONCLUSIONS

We have considered a number of alternative definitions of essential equivalence and a range of indices for measuring relative capabilities. Insofar as the purpose of essential equivalence is to influence favorably the perceptions of potential adversaries and allies alike, it was argued that static measures of current capabilities may not be most relevant. Instead, perceptions of the balance are most strongly influenced by assessments of who has "momentum." That is, past trends and projected future trends dominate over assessments of current capabilities. Assessments of those trends appear to be most influenced by rates of change in capabilities and by dramatic technological breakthroughs or deployments of fundamentally new or improved systems.

In terms of indices of the balance or of dynamic calculations of strategic attack capabilities, it was argued that all of these methods and measures suffered from severe

limitations. Standard forms of aggregate measures such as throw-weight or megatonnage tend to be quite misleading and they systematically overestimate actual capabilities because they fail to take account, in particular, of operational constraints on weapons employment. Moreover, most of those aggregate measures tend to overestimate actual US capabilities more than Soviet capabilities. Because all of these measures are of such questionable reliability, the simple method of assessing capabilities in terms of a large set of them does not increase the reliability of the "rough" assessment of the balance. Given the apparent lack of impact of these measures on perceptions of the balance and their lack of reliability in assessing actual military capabilities, it would seem appropriate to minimize the weight placed on them.

Dynamic methods of assessing strategic capabilities were found wanting because of their failure to treat systematically the uncertainties inherent in our knowledge of weapons effectiveness parameters or because the treatment of uncertainty tends to be biased to make a case. Dynamic assessment methods are useful for indicating the nature and degree of the uncertainty faced by force planners. They are also useful in indicating the kinds of tradeoffs in force composition or force employment strategies that are available for hedging against uncertainty. However, dynamic assessments, done properly, do not beget confident point estimates of strategic capabilities that can be compared against the capabilities of an adversary. At best, such assessments can indicate the range of uncertainty in outcome faced by potential adversaries in a particular scenario condition. If equivalence in strategic capabilities is the objective, then the best that can be offered by dynamic analysis is to show whether the uncertainty ranges in exchange outcomes are significantly different for each side in a nuclear exchange. The issue, then, becomes "how rough" can be assessments of essential equivalence? This will necessarily be a matter of judgment rather than of analysis and, therefore, cannot be resolved by use of any form of currently available measures of strategic capabilities.

ENDNOTES

1. William W. Kaufmann, *The McNamara Strategy* (New York: Harper and Row, 1964), pp. 282-285.
2. Ibid., p. 283.
3. Ibid., p. 305.
4. Alain Enthoven and K. Wayne Smith, *How Much is Enough?* (New York: Harper and Row, 1971), pp. 183-184.
5. Secretary of Defense Melvin Laird, *Fiscal Year 1972-76 Defense Program and the 1972 Defense Budget*, March 9, 1971.
6. Ibid., p. 46.
7. Secretary of Defense James Schlesinger, *Annual Defense Department Report FY 1976 and FY 1977*, February 5, 1975.
8. Ibid., p. I-3.
9. Ibid., p. II-7.
10. Ibid., p. II-8.
11. Harold Brown, "Defense Planning and Arms Control: Deterrence, Stability, and Equivalence," speech delivered at the University of Rochester, Rochester, New York, April 13, 1977.

12. Ibid.

13. This formulation was proposed and employed by Paul Nitze in "Assuring Nuclear Stability in an Era of Detente," *Foreign Affairs*, January 1976.

14. Ibid.

15. Jan Lodal, "Assuring Strategic Stability: An Alternative View," *Foreign Affairs* 54 (April 1976).

16. The throw-weight parameters used here and those which are used subsequently are taken from Thomas Downey, "How to Avoid Monad—And Disaster," *Foreign Policy* 24 (Fall 1976): 176, 178. That these may not be consistent with classified numbers is not important for the argument made here.

17. See in particular Paul Nitze, "Deterring Our Deterrent," *Foreign Policy* 25 (Winter 1976-77): 200.

18. Fred A. Payne, "The Strategic Nuclear Balance: A New Measure," *Survival* 20 (May/June 1977).

19. Ibid., p. 109.

The Political Potential of Equivalence: The View From Moscow and Europe

Benjamin S. Lambeth

INTRODUCTION

When the dramatic expansion of Soviet strategic forces first became apparent to Western observers during the second half of the 1960's, considerable debate arose concerning the objectives of that effort and the consequences it implied for future American security and international stability. Some analysts interpreted the buildup as manifest evidence of a Soviet determination to achieve strategic superiority over the United States and warned that with such a margin of advantage in hand, the Soviet leadership would become emboldened toward a more adventuresome foreign policy, attempting to use its new-found strategic leverage to extract political concessions from the United States in coercive tests of strength around the world, much as the United States did against the Soviet Union during the Cuban missile crisis of 1962. Other analysts, perhaps the majority, questioned whether asymmetries in strategic power short of decisive first-strike superiority afforded either side any practical political utility under conditions of mutual deterrence and portrayed the Soviet buildup instead as merely a testament to the Soviet leadership's desire to eradicate the embarrassing legacy of inferiority inherited from the Khrushchev incumbency. Those of this viewpoint tended to assume that the Soviets, notwithstanding the continued ideological bombast of their declaratory rhetoric, generally shared the conventional wisdom of Western strategic philosophy, which held that a stable deterrent balance based on mutual vulnerability was the only feasible solution to the contemporary East-West security dilemma. By and large, these individuals voiced expectations (with varying degrees of confidence) that once the Soviets acquired a force inventory sufficient to place them on an acknowledged footing of strategic equality to the United States, they would become satisfied to moderate their deployment efforts and enter into arms control negotiations with the West aimed at formalizing and ratifying their newly acquired status of parity.

Subsequent events in Soviet-American relations have tendered mixed returns on the relative foresightedness of these opposing prognoses. There is little doubt in the minds of most observers that whatever their ultimate strategic calculations and goals might be, the Soviets were resolutely bent on matching the United States in all significant categories of strategic power and regarded the attainment of equality as an indispensable precondition for the SALT I accords that were signed in 1972. There is also little disagreement that whatever Soviet military doctrine may say regarding the

value of superior forces and the necessity for a strategy oriented toward war-waging and victory, the Soviet leadership regards deterrence of nuclear war as its overriding security priority and seeks the maintenance of a strategic balance conducive to minimizing the likelihood of such a war. In this sense, there is general assent that the Soviet leadership views strategic equality as the bedrock of its political-military relationship with the West and stands genuinely committed to deterrence "stability" insofar as it vastly prefers peace to testing its strategic theories in a nuclear war.

Beyond these base generalizations, however, the debate about Soviet attitudes toward the role and uses of strategic power continues unresolved and unabated. It has become exacerbated, moreover, by the continued growth of Soviet strategic forces and associated war-survival measures well beyond what most analysts consider adequate for a defense posture based on "assured destruction" premises. Whether or not the Soviet Union is indeed engaged in a concerted effort to achieve some form of strategic superiority over the United States within the limits of SALT and detente, its persistently robust force improvement activities have sparked increasing concerns in the minds of many observers, supporters and critics of SALT alike, that the Soviet leadership may be marching to a different drummer in its strategic comportment toward the West and additionally may be far less enamored of Western views on the preconditions of deterrence and the limits of strategic power than many people here once guardedly thought. The central stability (or, if one prefers, fragility) of the current Soviet-American standoff has, of course, yet to be tested in a major international crisis, and any judgments regarding the consequences of our loss of superiority and Soviet attitudes toward the utility of their own buildup must accordingly remain largely inferential and speculative. On the other hand, the constraining influence of the new Soviet posture on US diplomatic assertiveness has been repeatedly tested at the margins (most notably during the 1973 Middle East war and in the current superpower imbroglio over East Africa), and the once academic question concerning the political significance of "rough parity" ("on whom is it rougher," in Albert Wohlstetter's acerbic formulation) has lately come to acquire major operational relevance for US security planners and decisionmakers.

Explication of this question is complicated by the fact that the two superpowers approach it from such widely divergent vantage points. For the United States, parity has essentially become a fact of life to be recognized and adjusted to, given the apparent Soviet insistence on maintaining it as a rock-bottom basis of acceptable Soviet security. With any return to the overwhelming superiority enjoyed by the United States during the early 1960's ruled out by Soviet denial policies and the constraining protocols of SALT and detente, most American leaders (some more reluctantly than others) have resigned themselves to accepting parity as the central feature of US-Soviet relations for the indefinite future. Of course, any bitterness that may have been encountered in swallowing this particular pill has been somewhat ameliorated by the fact that parity happens to coexist very nicely with much of prevailing US strategic orthodoxy, which holds that a balance of forces conferring assured destruction capabilities on both sides is the only arrangement within current economic and technological grasp that can reliably guarantee stable deterrence. Whether by necessity or happenstance preference, current US policy explicitly disavows any interest in striving for a recapturing of decisive superiority and regards "essential equivalence" with the Soviet Union as the central goal of its acquisition programs and SALT strategy. All the same, the United States has been obliged to recognize that parity was essentially foisted upon it by independent Soviet actions beyond US control, and the key issue accordingly faced by American deci-

sionmakers centers on how best to manage under the constraints levied on former US freedom of action as a consequence of this development.

For the Soviet leadership, the significance of this changed "correlation of forces" (as they call it) is probably perceived in a considerably different light. They, after all, are the ones who single-handedly engineered the change in the first place and now enjoy the advantage of momentum for having caught up from behind. As a result of their efforts, the Soviets have every reason to feel satisfied that they have pulled abreast of the United States in the major indices of military power and may indeed envisage themselves as potential inheritors of the mantle of ascendancy in the long-term competition for global hegemony. This is not to say, of course, that the Brezhnev leadership radiates unbridled enthusiasm over the prospect of actually achieving strategic preeminence or perceives an array of diplomatic opportunities ripe for plucking simply by cashing in on the Soviet strategic achievements that have been registered to date. For a variety of reasons, not the least of which involves the danger of provoking the United States into a vigorous reaction in kind, the Soviets have ample cause for circumspection and caution in attempting to capitalize on their newly acquired strategic assets. One need not, however, reconstruct all the specifics of Soviet policy assertiveness that have been increasingly evident in recent years to indicate that the Soviet leaders are currently indulging themselves in an unprecedented display of exuberance which, if little more, projects disturbing hints of an underlying conviction that time is on their side.

Moreover, the Soviets give no indication of endorsing the "parity principle" either as a touchstone of their weapons acquisition or as a preferred basis for deterrence. For them, parity is less an ultimate objective to be striven for than a transitory and permissive springboard for testing Western resolve and pursuing whatever additional accretions of strategic power that the strictures of SALT and American tolerance will allow. Whatever the private thoughts of the Soviet leadership may be regarding the political uses and limitations of strategic power, the vigorous pace of Soviet force improvement that has persisted uninterrupted throughout the past decade, notwithstanding SALT and detente, attests to an abiding Soviet belief that there is at least some objective merit to be gained from their efforts. It also raises serious doubt whether the Soviets share the prevalent Western conviction that marginal advantages short of a splendid first-strike capability afford scant diplomatic utility in international relations.

The purpose of this essay is to explore Soviet perceptions regarding the political meaning of the parity relationship that has come to characterize the East-West strategic confrontation and to speculate about the opportunities which, in the Soviet view, attainment of equivalence may imply for future Soviet action. It will begin with a look at Soviet approaches toward weighing the strategic balance (which differ fundamentally from most currently fashionable Western indices), continue with a discussion of possible Soviet views on the adequacy of current Soviet forces for a variety of political and military tasks, and conclude with a brief overview of how our NATO Allies—the central prizes in the overall strategic game—perceive their own security requirements, imperatives, and options to have been affected by the shifts that have occurred in the Soviet-American relationship during the past decade.

DEFINING THE PROBLEM

Before proceeding, we should first emphatically note that "equivalence" does not constitute a recognized and accepted concept in the vocabulary of Soviet discourse on strategic matters. Nor, for that matter, does "balance" insofar as it connotes a desired goal of aggregate force symmetry between the superpowers rather than merely a stable deterrent system that minimizes incentives (at least on the part of the United States) to employ nuclear weapons. Both of these notions gained currency in American strategic discussions during the mid-1960's, when the initial expansion of the Soviet military inventory presaged the eventual demise of US superiority (along with whatever political comforts it may have provided) and obliged US decisionmakers to begin thinking seriously about seeking new security arrangements consistent with the Soviet determination to match the United States in visible strategic power.

For the Soviets, "equivalence" and "balance" are unnatural concepts because they imply an enshrinement of the status quo, a notion alien to every known tenet of Soviet political ideology and historical doctrine. Nowhere in the record of Soviet policy utterances is there any indication that the Soviet leadership has endorsed "essential equivalence," at least as it is understood in the United States, as the desired endpoint of the SALT process or of Soviet weapons acquisition. Their preferred formulation is "equal security," a far more ambiguous and subjective rubric that readily (and doubtless purposely) admits considerably more broadened and self-serving definitions of Soviet force requirements than faithful adherence to the more restrictive "essential equivalence" construct would allow. Likewise, instead of depicting the superpower military relationship as a "balance" of more or less matched and mutually cancelling inventories of strategic hardware, the Soviets speak in terms of an East-West "correlation of forces," a similarly permissive concept that takes into account numerous power indices beyond the elementary bean-count of opposing weapons and, in addition, stands studiously uncommitted to any notion that strategic adequacy must conform to the principle of equity.

Accordingly, looking for Soviet perspectives on the political potential of equivalence really involves asking the question the wrong way, for it assumes that Soviet decisionmakers regard equivalence as a norm to be exploited and as a correct characterization of the prevailing East-West strategic relationship. In fact, there is good reason to suggest that the Soviets regard themselves as comfortably superior to the United States in some categories of power and distressingly inferior in others. A more useful approach to Soviet thought on the political implications of the current strategic relationship would seem to lie first in asking how the Soviets conceptualize strategic strength in the abstract, and then in exploring the degree of Soviet satisfaction with their present strategic capabilities and probable Soviet views on the benefits those capabilities provide that were presumably unavailing in harder times.

HOW THE SOVIETS GAUGE STRATEGIC POWER

The differences between American and Soviet doctrinal views on the role of strategic forces, once largely ignored or dismissed by Western analysts, have now become so widely recognized throughout the strategic community that we need hardly belabor them yet again in detail here. Essentially, they boil down to a fundamental divergence in outlook between American and Soviet strategic elites on the nature of the modern nuclear predicament and the requirements it poses for successfully dealing with it.

American thinking, born predominantly of the postwar generation of civilian defense specialists bearing legal, technical, and in all events, distinctly nonmilitary intellectual outlooks, is deeply rooted in the proposition that nuclear war is unwinnable in any practical political sense. Accordingly, it places primary emphasis on the possession and maintenance of a capability to inflict unendurable retributive harm on Soviet society following the most massive nuclear attack the Soviet Union might initiate. This orientation has, over the past two decades, yielded a succession of policy variations on the general theme of deterrence, culminating in the current apotheosis of the "assured destruction" concept from what was once a mere force-sizing criterion to the level of a full-fledged national strategy. It has also produced an increasingly predominant belief that deterrence stability (and hence US security) is best served by a strategic environment of mutual assured vulnerability, in which each side holds the most cherished values of the other hostage through survivable nuclear retaliatory capabilities. This orientation not only provides the central thread of logic running throughout the United States Government's current SALT negotiating stance, but also constitutes the conceptual basis for most of our criteria for determining US strategic force posture sufficiency.

The Soviets, by contrast, approach their own strategic planning with the thoroughly traditional and time-worn military conviction that despite the revolutionary advances in destructive power brought about by modern weapons and delivery systems, the threat of war persists as a fundamental feature of the international system and thus obliges the Soviet leadership to take every practical measure to prepare for its eventuality. While the Soviets share the Western commitment to deterrence as their principal security concern, they reject out of hand the "assured destruction" ethic as a thoroughgoing abdication of political responsibility. For their part, they appear persuaded that in the nuclear age no less than before, the most reliable way to prevent war is to maintain the appropriate wherewithal to fight and win it should it occur. This orientation, which one might fairly label "unilaterally assured survivability," pervades the Soviet military literature and accounts for much of the Soviet effort that has been exerted over the past decade to acquire a hard-target counterforce capability and a supporting battle management infrastructure aimed at providing at least the rudiments of a plausible war-waging posture. Although Western analysts continue to disagree strenuously over the practical relevance of this declared Soviet philosophy for US strategic policy, few question any longer that it exists and has more than mere propaganda meaning for Soviet planners.

A less widely appreciated but equally fundamental difference between US and Soviet practice, largely derivative from the doctrinal dichotomy outlined above, may be found in the way each side measures strategic power and assesses its position in the overall strategic balance. Grossly oversimplified, the characteristic American approach has been to focus almost exclusively on the tangible instruments of strategic power, comparing the relative capabilities of the two sides in terms of a variety of static measures and then arraying the two forces against one another in alternative exchange scenarios designed to test their relative first-strike and retaliatory damage potential against selected military and urban-industrial target sets. Through the use of such force comparison techniques, US planners derive rough-order "sufficiency" criteria for employment in determining US force structure requirements and SALT negotiating positions that essentially seek an inventory of weapons roughly equal to that of the Soviet Union in aggregate appearance and capable of fulfilling the targeting objectives of the SIOP (Single Integrated Operational Plan) with reasonable confidence. So long as those criteria are acceptably met, we tend to regard our strategic requirements as satisfactorily served.

Because of Soviet secrecy, there is little we can say with any degree of specificity regarding how Soviet decisionmakers formulate their force requirements, establish their "sufficiency" criteria, and assess the adequacy of their strategic position in the overall balance of forces. From what we know about general Soviet style and practice (and from what we can infer via Soviet strategic commentary and force development), however, it seems fairly clear that the Soviets approach the whole strategic balance issue in a way fundamentally unlike that of their American counterparts. For one thing, the absence of anything resembling an "assured destruction" benchmark in Soviet force planning and the evident Soviet unwillingness to settle for a strategic posture "essentially equivalent" to that of the United States attest to a Soviet acquisition philosophy that lacks any clear-cut criteria of strategic adequacy and recognizes no obvious stopping points other than the negotiated limitations agreed to at SALT. The stress placed by Soviet doctrine on maintaining a credible war-survival posture as a precondition of deterrence obliges Soviet planners to follow a highly conservative approach toward force design whereby, given the manifold demands and uncertainties of modern warfare, they literally feel a need for as much in the way of employable weaponry as they can realistically get. Doubtless, of course, the Soviets recognize some minimally acceptable level of adequacy necessary to meet the elementary demands of Soviet foreign policy and national security, and Soviet planners surely have finite and carefully specified acquisition goals to meet in the year-to-year implementation of their defense programs. Yet because of the combat orientation of Soviet doctrine and the "more is better" acquisition ethic naturally dictated by that orientation, the formulation of those goals is more likely to be bounded simply by straightforward considerations of economic and technological feasibility than by sophisticated criteria derivative from any preconceived "theory" of enoughness. Consequently, while we can speculate with reasonable assurance about general Soviet satisfaction with the state of their strategic situation relative to the United States, we cannot conclude from such speculation to what degree the Soviets feel they have approximated a level of strategic construction where they can begin contemplating calling it quits. Given their view of the dynamic nature of East-West competition and the rigorous force requirements that would be imposed on the Soviet military in the event of war, it is their enduring doctrinal belief that they can never call it quits. Moreover, despite their explicit disavowal of any intention to seek "superiority" over the United States, the Soviets have made it well known in other contexts, both at SALT and elsewhere, that they believe their unique "geopolitical problems" (namely, China and Western Europe) entitle them to additional compensating forces over and beyond those required for maintaining "equal security" with the United States. Although such intimations have had a distinct tone of tendentiousness that has rightly failed to elicit much sympathy in the West, they may well indicate that in the minds of some Soviet planners, acceptable security genuinely entails not merely "equivalence" with the United States but a significant *de facto* margin of strategic advantage.

Second, the bulk of Soviet military commentary suggests that the typical American approaches toward weighing and assessing the strategic balance, particularly their narrow infatuation with comparative statistics at the exclusion of incommensurable variables, are totally anathema to Soviet military analysis. This is not to say that Soviet planners are indifferent to the quantitative aspects of nuclear inventories or to claim that they have failed to develop the sort of elaborate missile-duel models and related methodologies for force comparison that figure so prominently in official US strategic studies. Indeed, while specific examples are hard to come by, it is well known that sys-

tems analysis has evolved into a major Soviet military growth industry, and there is every reason to believe that planning staffs in the Soviet Defense Ministry are just as sensitive to the significance of such matters as weapons phenomenology, system reliability, targeting philosophy, and scenario assumptions in their own strategic assessments as their far more publicly visible counterparts in the United States seem to be. It is, however, to argue that for the Soviet strategic community, the performance characteristics and comparative statistics of strategic forces are not only not deemed the sole determinants of aggregate strategic power, but may well not even be regarded as constituting the most important ones.

Unlike most American measures of the strategic balance, which tend to fixate on a rather narrow band of relative strategic force characteristics, the Soviet concept of the "correlation of forces" admits not only opposing strategic nuclear forces but also theater and conventional assets, as well as a whole panoply of nonmilitary (and largely intangible) aspects of national power, such as political and economic strength, alliance support, leadership quality, and national resolve. And what makes for a favorable position in the overall strategic balance is not simply some predetermined level of achievement in central strategic forces (which, in the Soviet view, naively confuses numbers with strength), but a respectable standing across the entire spectrum of national power assets, even though the Soviet military may remain wanting regarding one or another specific weapons system or capability. As one of the more thoughtful Soviet writers on military affairs, retired Army Colonel V. M. Kulish, has put it, the ultimate measure of strategic adequacy "is the result of a complicated opposition of forces which is impossible to express in terms of simple qualitative indices, even though it may prove impossible to analyze the balance of forces in the absence of such indices."¹

On repeated occasions, Soviet commentators have treated American conceptualization of strategic issues with alternating bemusement, perplexity, and sarcasm. A typical example is the characteristic Soviet deprecation of narrow bean-counting force assessment methodologies as ahistorical, apolitical, lacking in operational content, and insensitive to the realities of modern warfare. In this vein, one periodically encounters Soviet depictions of American complex defense analysis as game-playing with simple arithmetic in addressing problems of combat operations, whose actual interactions among political, technical, and psychological variables under conditions of profound uncertainty vastly more closely resemble the intricacies of higher mathematics. For most Soviet writers, US approaches to strategic force analysis are unattuned to the real world as they comprehend it, which among other things features an enduring understanding that war (even nuclear war) is ultimately about people and decisions and entails considerably more than sterile interaction between mindless variants of military hardware.

Given the character of their doctrine, with its manifest Clausewitzian flavor, and their past history of battlefield trials against enemies who directly threatened their political survival, it is scarcely surprising that the Soviets should harbor such a view. Whatever one may say about the superficial appeal of American approaches toward determining strategic adequacy, those approaches almost uniformly concentrate on abstract force exchanges irrespective of any larger strategic context and generally satisfy themselves with addressing the performance of those weapons against their designated targets irrespective of any ultimate political goals which such operations may be intended to accomplish. What they typically fail to appreciate is that such factors as intelligent decisions,

leadership courage, clever strategies, and operational adroitness in the implementation of tactics all exert a great deal of independent influence on the course and complexion of war and constitute important strategic resources in themselves which, in certain circumstances, can even overshadow and successfully offset deficiencies in the harder indices of military power.

What all of this means for the purposes of this discussion is that we cannot examine Soviet perceptions of strategic adequacy using the frame of reference typically employed in Western strategic analysis. For Soviet planners, strategic power is partly a function of the physical makeup, numerical size, and operational versatility of deployed forces, but it also depends heavily on other inputs into the correlation of forces, such as external political trends and the advantages they provide Soviet diplomacy, the momentum of Soviet foreign policy and the ability of the leadership to sustain and exploit it, and so on. Moreover, a specific level of arms accumulation that Soviet planners might regard as sufficient for underwriting certain peacetime political objectives (such as enforcing global recognition of the USSR as an equal to the United States) may well be deemed inadequate for bearing the more demanding burdens that might be imposed on Soviet leaders in a severe test of political-military strength (such as providing the means for successfully implementing Soviet military doctrine should a major nuclear catastrophe appear unavoidable).

SOVIET ASSESSMENTS OF THE STRATEGIC BALANCE

From an overall political perspective, the Soviet leadership has every reason to be warmly pleased with the improved force posture it has acquired as a result of its military expansion and modernization efforts of the past decade. The rhetoric of contemporary Soviet diplomacy, in proper obeisance to the spirit of detente, has tended to be rather restrained and muted in comparison to the hostile stridency that characterized Soviet pronouncements during the Khrushchev era. Yet the Soviets have studiously reminded their Western audiences that this image of confidence and composure is amply supported by the major shift in the East-West strategic relationship that has occurred as a direct result of the post-Khrushchev Soviet strategic buildup. One rarely encounters a Soviet utterance on the state of the global scene any more that fails to include at least a perfunctory reference to this changed strategic relationship. It is now a ritual Soviet argument that SALT, detente, and the general resurgence of the socialist community in international affairs have all been exclusively rendered possible by the newly emergent Soviet posture of strategic equality with the United States.

As an adjunct of their peacetime diplomacy, there is no doubt in the minds of the Soviet leaders that their investment in strategic force expansion has returned handsome political dividends. Among other things, it has forced the United States to abandon its commitment to strategic superiority and obliged it to accept the Soviet Union as a full-fledged political-military equal. It has further driven the United States to settle for detente as the only workable framework for bilateral superpower relations and has stimulated it to seek a regulation of the arms competition through SALT, thereby providing the Soviet Union considerable *de facto* control over the scope and pace of US weapons programs. Finally, coupled with the parallel growth in Soviet capabilities for remote area intervention, the Soviet buildup has played a major part in emboldening the leadership toward vigorous efforts to project its presence and influence in contested Third World areas with little fear of encountering serious United States opposition. References to "the

unalterable truth that the balance of forces . . . has changed radically and continues to change to the detriment of imperialism" are now the stock in trade of Soviet declaratory commentary.² They seem to reflect an increasingly entrenched Soviet conviction that the momentum of history has decisively swung to their side.

This mood of sublime self-assurance inspired by the growth of Soviet strategic power has perhaps been most confidently expressed in the widely cited proclamation of Foreign Minister Gromyko that "the present marked preponderance of the forces of peace and progress gives them the opportunity to lay down the direction of international politics."³ It has also been conducive to more than occasional hints of self-righteous arrogance in recent Soviet pronouncements, indicating that for at least some Soviet observers, life in the world of equivalence has become a decidedly heady experience. The Soviet assumption of license to meddle in troubled Third World areas such as Angola and the Horn of Africa has been typically rationalized by the glib assertion that "the struggle for military detente should in no way be taken as a refusal to support wars of liberation on the part of . . . the socialist nations."⁴ Yet Soviet spokesmen waste few opportunities to lecture the United States for "importunately attempting to disseminate its own ideological principles and thrust them on other nations in the name of the struggle for human rights."⁵ This double standard is, of course, scarcely new to Soviet declaratory rhetoric, but it has come to assume new significance insofar as the Soviets now speak as though they genuinely believe their position in the global correlation of forces has bestowed upon them the natural right to insist on it and the capabilities to enforce it. In the current Soviet idiom, "the idea that detente can 'withstand' a burden made up of steps aimed at interfering in our internal affairs and of attempts to insure one-sided advantages for the United States" belongs in the category of what, in more polite language, the Soviets term "incorrect notions."⁶ Yet it is evidently quite acceptable, in the Soviet view, that detente should be expected to "withstand" Soviet imperial adventures abroad, unimpeded conventional force enhancement opposite NATO, continued strategic force diversification, and self-serving obduracy at SALT. In all events, both their rhetoric and their diplomatic comportment radiate clear Soviet convictions that the strategic balance is tilting in their favor and that their attainment of equivalence has brought them manifold political returns that would otherwise have been largely unforthcoming. In terms of its symbolic value and demonstrated capacity to affect the perceptions and peacetime behavior of the United States and other countries, the current Soviet strategic posture appears to have handily met the expectations of its architects.

As for the extent to which the Soviets believe their force improvements have provided useable resources for exerting leverage on the United States in crises, there is obviously much less that can be said with any confidence. The Soviets have no published body of analytical literature on the role of strategic power in crisis diplomacy in any way comparable to ours, and we have thus far avoided an actual head-on clash analogous to the Cuban showdown of 1962 which might provide unambiguous insight into Soviet views on the blackmail potential of strategic forces under conditions of preponderance. Whatever the content of private Soviet thinking on this score may be, Soviet spokesmen have conspicuously refrained from telegraphing indications of it in open discourses and have generally restricted themselves to attacking various American academic and governmental perspectives on the matter.

Indeed, it may well be the case that by attempting to divine tacit Soviet concepts for using strategic threats in crisis management, we may be looking for a philosophy that

simply does not exist in any systematic form that would be recognizable to us. Throughout the past decade, Soviet military theoreticians have incessantly assailed US concepts of strategic bargaining and coercive diplomacy as bankrupt notions that are provocative on their face, have never worked in practice, and would dangerously threaten international security should they be invoked in future superpower conflicts. While much of this commentary has been blatantly propagandistic, there is no reason automatically to dismiss it as having no practical meaning for Soviet planners. One of the principal hallmarks of Soviet military thought is its unadorned simplicity, dominated by a belief that the purpose of strategic power is neither more nor less than to deter enemies in peacetime and defeat them in war. This doctrinal focus is the product of a unique Russian strategic culture that knows no counterpart to our civilian defense intelligentsia, which has been largely responsible for developing and promulgating such sophisticated (and, to the Soviet mind, misguided) Western concepts as "compellence," intracrisis bargaining, and the like.

To most Soviet military writers, these concepts come across as distinctly bourgeois notions more appropriate to the marketplace than the battlefield. The insistent Soviet disavowal of such Western strategic ideas as demonstration attacks, limited nuclear operations, and slow-motion counterforce duels could, in one interpretation, be read as a subtle indication of real Soviet conviction that warfare is a deadly serious business not to be played at with less than total determination. In peacetime and crisis, according to this hypothesized perspective, the political utility of strategic power inheres simply in the tacit threat potential projected by visible Soviet forces in being, rather than in any carefully concocted bag of tricks for the application of that potential in selective or incremental half-measures. Indeed, the more forthcoming Soviet commentators on strategic matters have occasionally voiced explicit doubts regarding the utility of central strategic forces for bringing their influence directly to bear in what Herman Kahn has labeled "Type II Deterrence situations," namely, crises where core superpower values short of national survival lie at stake.

In this spirit, Colonel Kulish observes that "the ability of the USSR to deliver nuclear-missile weapons to any point on the earth's surface . . . is extremely important from the standpoint of preventing all-out nuclear war," but quickly adds that "this form will not always be effective in those situations that could develop into limited wars, even though the interests of the Soviet Union and other socialist bloc countries might be directly involved." For these latter types of situations, Kulish notes, "the Soviet Union may require mobile and well-trained and well-equipped forces." In such circumstances, he adds, "the very knowledge of a Soviet military presence in an area in which a conflict situation is developing may serve to restrain the imperialists and local reaction."⁷ In this unusual public foray by a Soviet spokesman into the realm of Soviet force requirements for crisis diplomacy, Kulish seems to be arguing that in less than apocalyptic situations, what deters the adversary is not any specific set of threats levied by central nuclear forces, but simply the specter of plain war involving untold escalatory potential. In this situation, what will largely swing the political-military course of events at the point of engagement will be the local correlation of forces, influenced only indirectly by the backdrop of intercontinental nuclear weaponry.

If the Soviets have little to say about their thinking on the active uses of strategic forces in crisis confrontations short of war, however, they have revealed a great deal—both in their statements and weapons deployment activities—regarding their attitudes

toward the passive value of such forces and the negative consequences that can quickly accrue from being grossly underequipped. Whether or not the Soviets perceived themselves as having been expressly "manipulated" by US strategic superiority during the Cuban missile crisis, they almost certainly felt constrained in their own freedom of action by the combined US local preponderance of forces and the manifest imbalance of power at the strategic nuclear level which together allowed the United States to control the flow of events. In the aftermath of the crisis, Soviet UN representative Kuznetsov soberly remarked to a US diplomat that the USSR would never again allow such a humiliating disaster to occur due to perceived Soviet weakness, and there is good reason to believe that the principal motivation behind the post-Khrushchev Soviet buildup was a collective determination on the part of the new leadership to correct once and for all the gross disparity between US and Soviet nuclear forces which, in the Soviet view, allowed the United States to get away with its brazen conduct in the Cuban affair. From their experience gained during the Cuban episode, the principal lesson drawn by the Soviets was probably less that strategic superiority offers predictable payoffs in crisis diplomacy than the notion that it definitely costs to be on the inferior side in any major confrontation of countervailing resolve. By closing the gap with the United States through their concerted pursuit of offensive force equality, the Soviet leaders probably feel that they now foreclosed options for initiative and control that formerly were unilaterally available to the United States. They also doubtless draw considerable satisfaction from having knowingly forced a shift in the burdens of anxiety onto the United States in any superpower crisis that may occur in the future.

Where the Soviets almost surely harbor the gravest doubts about the adequacy of their strategic construction efforts to date lies in the capacity of those efforts to underwrite the demands of Soviet military doctrine, namely, to seize the initiative decisively at the brink of a major nuclear calamity, dominate the direction of events throughout the period of hostilities, minimize the damage visited on Soviet society by skillfully employing available offensive and defensive resources, and enable the Soviet Union to emerge in a position of recognizable and politically meaningful advantage. Because these obligations place open-ended demands on Soviet force availability, performance, and supporting infrastructure resilience and durability, the Soviet leaders (to the extent they feel at all bound to pay more than superficial heed to the edicts of their strategic doctrine) can never feel so complacent about the adequacy of their security preparations as to permit any prolonged resting on their strategic oars. If the Soviet Union shared the Western belief in the sufficiency of assured destruction capabilities and endorsed the Western willingness to settle for an international status quo based on an equitable division of spheres of influence, then we might conceivably enjoy a situation in which the historic competition between the social systems could be safely waged on exclusively political rather than military grounds. Because the Soviet leadership remains steadfastly unpersuaded by the logic of Western strategic wisdom and because the requirements of Soviet doctrine place such immoderate demands on Soviet weapons acquisition, however, we are likely to remain consigned to a future of continued offsetting measures, within the constraints of detente and mutually accepted SALT agreements, in order to avoid a position of gross inequality in the superpower balance.

This is not to suggest, of course, that the Soviet Union is inexorably committed to the achievement of strategic superiority whatever the costs may be. There is ample cause to doubt whether the Soviets believe such a goal lies within their grasp given the considerable economic resources, technological capabilities, and political determination

possessed by the United States to neutralize any Soviet efforts to acquire a posture of manifest strategic advantage. It is, however, to argue that Soviet leaders see tangible benefits to be garnered from less grandiose variants of strategic advantage (such as a credible disarming capability against US ICBM's), on the grounds that such a capability joined to an aggressive and imaginative wartime strategy could significantly draw down US combat resources while preserving a large residual Soviet force, even though portions of the US SSBN and bomber fleets would remain survivable. Soviet decisionmakers might also be able to persuade themselves in a crisis that the US leadership, faced with such an unprecedentedly stressful situation, would be driven by the shock effect of the initial Soviet offensive into autohypnosis and immobilism, either physically incapable of retaliating with its surviving nuclear forces or unwilling to risk the profound urban-industrial losses that such a retaliation would inevitably trigger.

It has been the implicit argument of the foregoing discussion that the Soviet leadership employs multiple criteria for assessing the adequacy of its strategic inventory. For normal peacetime relations, strategic equivalence is probably deemed wholly sufficient—if not optimal—for Soviet engagement in global diplomacy. It provides the basis for enforcing Western acceptance of the USSR as a strategic equal and assures that the Soviet Union will be accorded all the deference it feels it duly deserves as a militarily mature superpower. Moreover, it substantially guarantees that the Soviet leaders will at least enjoy the luxury of an equal voice to the United States in the resolution of international conflicts, whether or not it will fully support their indulging in "laying down the direction of international politics," in Foreign Minister Gromyko's extravagant formulation.

For crisis diplomacy, it is harder to pin down the degree of Soviet confidence in the sufficiency of Soviet forces for successfully coercing the United States, and it is almost impossible to isolate any systematic Soviet "theory" concerning the political exploitability of strategic muscle. The best that can be said here is that the Soviet leadership bears unforgettable memories of what it means to be on the short end of the stick in superpower showdowns and has every intention of maintaining a force at least comparable to that of the United States in appearance and versatility, so as to deny Washington the certainty of escalation control in future confrontations. On this count, equivalence may or may not be regarded by the Soviets as an acceptable measure of sufficiency, but it clearly constitutes a *sine qua non* beneath which the Soviet leadership will not sit still and beyond which it will accumulate as much as it reasonably can.

It is in the domain of warfighting capabilities that any potential Soviet consensus with the West on the adequacy of equivalence ultimately collapses and becomes supplanted by a compulsion to push Soviet force improvement to the limits drawn by Soviet resources and US forbearance. In this domain, the Soviet incentive is not unlike that shared by many American military men. It rests squarely on the belief that however satisfactory equivalence may be for fair-weather diplomatic tests of strength, the ultimate guarantee of Soviet survival inheres in a force providing reasonable prospect for fighting and winning a war in the event that the rationality and good judgment of political leaders should become strained to the breaking point by uncontrolled events. The difference lies in the discrepancy between the officially approved defense policies of the two superpowers. The United States has expressly committed itself to essential equivalence as an accepted goal of its strategic planning. The Soviet Union, as yet, has appeared uninterested in doing likewise. So long as this discrepancy persists, we can expect a

detente relationship in which both superpowers continue to pay formal obeisance to the ambiguous norm of "equal security" at the political level, while each strives in its unilateral R&D and deployment activities to press at the margins of feasibility, the Soviet Union in order to serve the edicts of its military doctrine within the limits of practicability, and the United States, for its part, simply in order to stay abreast.

EUROPEAN PERSPECTIVE ON EQUIVALENCE

It is not easy to construct an appropriate niche for considering West European views on the impact of the changed strategic balance in what has hitherto been an exclusive treatment of Soviet assessments on the matter. It is also, needless to say, all but impossible to isolate a generic "European" attitude toward the implications of parity, since the individual member states of NATO, unlike those of the Warsaw Pact, rarely speak to their respective national security concerns with anything approaching a unified voice. The question remains important, however, because European perceptions and responses to the shifts in Soviet-American relations over the past decade bear heavily on how the Soviets evaluate their own political opportunities and constraints created by their expanded strategic and theater force inventories.

Before venturing a cursory look at European reactions to the strategic events of the past decade, it bears noting that the Europeans approach the question of equivalence and its significance from a perspective fundamentally different from that of the Soviet Union. For Moscow, parity is an asset that has been won through painstaking effort designed to provide political maneuvering room that was substantially unavailable during the Cold War years of Soviet inferiority. For the Europeans, however, parity constitutes an unexplored terrain in the evolution of the superpower relationship over which they had essentially no influence and on which they now find themselves obliged to cope as best they can given the strictures it has imposed on American freedom of action and the options it has given the Soviets for deeper involvement in European affairs. The relevant question before West European leaders, therefore, is not so much the political potential of equivalence (since for them, the potential is unfortunately not theirs to exploit) but rather the impact of the loss of US strategic superiority on the credibility of the US security guarantee and the disposition of the Soviet Union to test the limits of that commitment by systematic intrusions into formerly unmolested NATO security interests.

The most immediate impact of the changed superpower balance on European defense interests is one obvious to students of strategic affairs on both sides of the Atlantic, namely, the effective US loss of escalation dominance over the Soviet Union wrought by Moscow's acquisition of theater and strategic nuclear parity. In view of the numerical predominance and geographic propinquity of Soviet conventional forces opposite Western Europe that have been constant factors in NATO planning ever since the creation of the alliance, there has never been much belief (and certainly no formal expectation) within NATO that conventional defense alone could provide a tenable option for assuring deterrence of a major Soviet offensive against the Central Region. Throughout the 1960's, however, there existed a prevalent West European view that the requirement for early NATO initiation of nuclear operations dictated by the conventional force imbalance would have a healthy restraining effect on any suppressed Soviet incentives to resort to war. There also existed a general presumption that the markedly superior US strategic nuclear arsenal would effectively backstop the NATO theater nuclear threat by negating in advance any Soviet attempt to risk escalating the war to the intercontinental level.

With the loss of that US superiority and the concomitant Soviet acquisition of a credible theater nuclear option through the deployment of deep-strike fighters and MRBM's such as the SS-20, the escalation dominance formerly enjoyed by the United States with its SIOP-dedicated strategic forces has largely disappeared. As a consequence, the key leaders of the European NATO powers have increasingly come to voice concern over what they perceive to be a steady decoupling of the US strategic arsenal from its once-prominent subsidiary role of providing extended deterrence of any Soviet force employment against Western Europe. The net result of this development has been to drive both the United States and the European members of NATO toward a reconsideration of the once largely discredited conventional defense option. It has also led to a reluctant conclusion throughout the NATO community that short of a fundamental change in NATO doctrine or an unlikely US recapturing of some measure of clear advantage at the strategic level, the best available way to cope with the emerging Soviet threat is to respond with sufficient countervailing conventional power to deny Moscow the option of a cheap victory through conventional means alone, while at the same time dampening Soviet incentives for nuclear employment by the threat of uncontrolled escalation to the strategic level. Although the logic of this formulation has evoked considerably less than headstrong enthusiasm and confidence in the minds of many NATO planners, there seems little denying that as a direct outgrowth of Moscow's attainment of parity with the West, the conventional-emphasis theme has now become the predominant fixture in NATO security policy discussions.

Beyond this shift in NATO's traditional strategic predispositions and assumptions, the Soviet attainment of parity has produced a whole range of more muted political reverberations throughout Western Europe. These latter developments have not so much been attributed to the growth of Soviet strategic and theater assets *per se* as to perceived vacillations and uncertainties in US political behavior in the face of the changed superpower balance. The events in recent US policy that have evoked such vociferous European concern over the steadfastness of American resolve and the integrity of the American commitment to NATO are well known and require no adumbration here. One need only cite as representative examples such items as the B-1 cancellation (with no guarantee of Soviet reciprocity), the announced intention of the Carter administration to withdraw US ground forces from South Korea, the Turkish arms embargo and its corrosive impact on the security of NATO's southern flank, the whole neutron bomb episode, the perplexing sequence of US diplomatic about-faces in the aftermath of President Carter's upbraiding of the Soviet Union in his Wake Forest address, and the disturbing inclination of the US Government to accept range restrictions and non-circumvention provisions at SALT on the cruise missile, a prospective weapon that most European leaders regard as absolutely vital for offsetting the present theater nuclear advantage enjoyed by Moscow. These and related points of concern may or may not constitute direct byproducts of the changed strategic balance, but they are clearly regarded by authoritative Europeans as linear outgrowths of an overweening US commitment to bilateral detente with the Soviet Union that has run roughshod over the needs and interests of the NATO community and raised discomfiting questions about the quality and durability of American alliance leadership.

For the Soviet Union, these trends in NATO politics fall far short of constituting an unmitigated package of diplomatic blessings. Because of the combined growth of Soviet strategic and theater forces and their effect in cancelling many of NATO's traditional last-ditch military assets and options, the issue of conventional force interoperability and

effectiveness has come to be regarded with deadly seriousness by all of the major NATO actors (the United States included), and the alliance has made impressive strides in the recent past to coordinate on solving the problem of effectively countering the Soviet conventional threat against the Central Region. Although NATO has a long way to go and much internal political heel-dragging yet to overcome, the long-term defense program recently promulgated at the NATO ministers' meeting in Washington promises (if ultimately funded and carried out) to produce a credible short-term defense against the conventional Soviet forces arrayed against Western Europe by mobilizing superior Western technology. Relatedly, the mercurial quality of recent US diplomatic stances on a variety of issues relating to European defense has had the unintended (but, for the Soviet Union, scarcely welcome) side effect of forcibly yanking the carpet out from beneath the embryonic Franco-Soviet entente engineered by deGaulle, driving the French Government toward a perceptible resurgence of interest in participating in NATO military planning activities, and inspiring France to contemplate acquiring an indigenous cruise missile and enhanced radiation weapon capability to compensate for what its leaders perceive as an uncertain US disposition to do the same for Europe with its superior technological resources.

While the Soviet attainment of parity has scarcely cowed the European members of NATO into unqualified submissiveness, however, it has visibly driven a wedge into European-American political relations and considerably fractionated the former consistency of NATO views on the indivisibility of alliance security interests. One reads of rumors that NATO has quietly countenanced repeated high-altitude Soviet reconnaissance intrusions into NATO airspace. One further reads of NATO reluctance to settle on a unified strategy for coping with a possible Soviet military intervention in Yugoslavia following Tito's demise, notwithstanding the obvious implications such a move would have for broader European security concerns. There is the hard fact of NATO refusal to grant enroute landing rights to USAF transport aircraft resupplying Israel during the 1973 Yom Kippur war, at a time of the most intense confrontation of Western and Soviet resolve since the Cuban missile crisis. There is also the more recent fact of West European reluctance to underwrite and support US power projection and involvement in the security of the Persian Gulf, despite manifest European dependence on petroleum supplies from that region and the prospect that the Soviet Union, anticipating its own coming energy pinch in the 1980's, will soon be entering strong bids for those resources.

How these signals are being interpreted in Moscow is not clear, but it is doubtful that they have been overlooked or discounted. The incipient NATO long-term defense program and Franco-German fulmination over the cruise missile certainly indicate genuine European concern over the direction of Soviet force posture trends. Yet the more telling signs of political disunity and increased detachment from US interests and leadership telegraphed by various West European actors may provide compensating encouragement in the Kremlin by raising serious question in the minds of Soviet decisionmakers whether NATO as a whole would have the unified determination and capacity for collective action to cope successfully with a major political-military challenge.

ENDNOTES

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Perceptions of Conventional Force Sufficiency

An analysis of the implications of conventional force "sufficiency" on the NATO region for the ground and air forces function, and the global implications of sufficiency in maritime capability. An examination of the elements of conventional force balances and the linkages inherent in such balances. An assessment of coalition posture in Europe, the projection capabilities required to constitute a sufficiency of force at sea and the political constraints inherent in current force posture trends.

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**Perceptions of Conventional
Force Sufficiency**

**Chairman's Plenary
Session Summary**

Stephen J. Hadley

As a first point, I should note that our discussions were aided immensely by the two papers prepared for the panel by Brigadier Ken Hunt and Dr. Dov Zakheim. They were excellent discussion vehicles and are reflected in these summary comments. Secondly, I should note that these comments certainly cannot do justice to the high quality of our discussions nor capture the full range of views expressed, and I apologize in advance to my colleagues on the panel.

We began by identifying the overall context and underlying trends which would form the backdrop for our discussions. First, the United States and USSR find themselves in a state of strategic nuclear parity. Second, over the past 10 years, the Soviet conventional military capability in Europe has markedly improved. Third, the Soviets have attained a capability to project substantial military force beyond the confines of the Eurasian land mass. Fourth, many regional powers possess increasingly strong and technologically sophisticated military capabilities affecting both US and USSR force projection possibilities. Last, the US dependence on economies and resources outside the continental United States has become a sharp player in international political choices.

With this as background, we divided our discussions into two parts, and discussed first the relationship between NATO and the Warsaw Pact forces in Europe with particular focus on the Central Region. The existence of parity on the strategic nuclear level as discussed by Panel 1 has served to heighten sensitivity to the relative balance between theater nuclear and conventional forces in Europe. Both the United States and its allies perceive some "insufficiency" in the area of conventional forces but the Europeans are less concerned about this than we, with some preferring a "comfortable insufficiency" on the conventional level in order better to insure deterrence based on US strategic forces. Thus, the Europeans have been less keen on improvements to NATO's conventional posture. As to Soviet perceptions, the Soviets are certainly more "comfortable" with the conventional balance given their force adjustments and modernizations over the last several years. However, it was suggested that theirs is a sophisticated view tactically, dwelling not simply on numbers but placing great stock in the context in which hostilities might arise—the role of surprise, initiative, and the density of forces.

With this discussion as background, we then turned to some more specific policy issues. First, in the area of theater nuclear forces, we noted that, in the context of strategic nuclear parity, the appearance of the Soviet SS-20 (and the potential for Soviet nuclear

artillery) has created an "insufficiency" in the theater nuclear posture which the Allies, and particularly the FRG, do not find at all "comfortable." It was suggested that there is a split as to the *military* assessment of this development, some analysts suggesting that the SS-20 gives the Soviets new military options for which the United States has no counterpart and that this has eroded deterrence. Other analysts regard any such new military options as irrelevant so long as the overall link to US strategic capability is assured. But in any case it was recognized by most panelists that at least the *political* problem posed by the SS-20 is a real one. This generally meant three things:

First, the European (or at least the FRG) perception of theater nuclear insufficiency provides important background for any other decisions concerning US nuclear weapons, and may suggest avoiding any reduction in other nuclear weapons systems until this political problem is resolved.

Second, the United States must begin to look at alternatives of two kinds: (1) Diplomatic or political actions which would provide psychological reassurance to the Allies. These were preferred by some panelists, but we were unable to derive any kind of persuasive approach along these lines. (2) Some panelists by preference, and others by default of a diplomatic or political alternative, felt that consideration would have to be given to a hardware solution for political, if not military, reasons. Additional nuclear deployments outside the Central Region were suggested (such as dedicating more Poseidon warheads to NATO), but a nuclear cruise missile in the Central Region was the primary hardware alternative discussed.

Some panelists suggested that the objective for any hardware solution would be a nuclear force element that would be complementary to and not a substitute for US strategic forces (so as not to raise any question of a decoupling from the US strategic deterrent). There was some recognition that systems on the ground in-theater gave *greater political assurance* to our allies.

Third, it was strongly urged by several panel members and generally agreed that the United States must take the initiative in handling this problem. Allied perceptions of "sufficiency" in Europe are dependent not only upon the objective military setting but also upon their perception of US skill in exercising leadership within the Alliance and in managing the East-West relationship with the Soviets. Particularly where nuclear weapons are involved, the Allies expect and depend upon the United States to take the lead—as was made clear in the recent neutron bomb affair.

We then examined our theater nuclear posture not from the standpoint of deterrence but its utility in repelling what was assumed to be a strictly conventional Warsaw Pact attack. Perhaps surprisingly, no one argued that nuclear weapons (particularly at the low end of the spectrum) could effectively be used to turn around a deteriorating conventional situation. There was general consensus in favor of the modernization of the US theater systems that is currently underway, since it will add at least marginally to the perceived usability of those weapons and thus increase the credibility of the deterrent. But no one argued that these weapons could substitute for an "insufficiency" in the relationship of conventional forces between the two sides. The one further area of attention, from the standpoint of deterrence, would be to give Allied forces greater training and preparation defensively for operating in a nuclear environment.

We then turned to the conventional forces in the Central Region and explored two questions:

—Is the demand for additional conventional forces in the Central Region an insatiable one, and, if not, what would be required to achieve a "conventional sufficiency" acceptable from the standpoint of US planners?

—Secondly, given this overall requirement, what should be our approach to further efforts to improve NATO's forces?

On the first point, there was surprisingly a consensus that "conventional sufficiency" was not out of reach, and that while we have a real problem on the Central Front, the demands are not insatiable. It was felt that a significant difference could be made with the addition of 5 to 7 divisions not necessarily in-place but ready for early use in the theater as the operating reserve now largely absent from NATO forces.

As to the direction of further improvements, some panelists felt that lack of adequate overall resource levels was still the primary problem. Without necessarily denying this premise, others thought that the improvements reflected in the Long Term Defense Program (LTDP) for NATO would make a significant contribution to the conventional military situation (in the absence of a major Soviet buildup) even under the current defense concept. A third group felt we should look at more dramatic alterations in the current force to provide that additional 5-to-7-division operating reserve, suggesting the creation of more formations by splitting some units into two reduced active strength units, to be filled out by reserve manpower personnel or territorials. These and similar approaches might provide substantial benefits in capability even within current resource constraints, and it was the consensus of the group that these options should be looked at seriously. (Ken Hunt's paper discusses these alternative approaches at some length.)

In our second day of discussions we looked at conventional sufficiency in the context of US policy objectives and force requirements in places other than Europe. We began by asking whether a military operation on the scale envisioned in the "half-war" of current US planning guidance was still a viable option: could an operation on this scale obtain adequate political support within the United States, and what kind of support could we expect from our allies, particularly in the post-Vietnam environment? There seemed to be a rough consensus of views along the following lines.

—The American public has not ruled out all military intervention as a matter of principle, but in the post-Vietnam era there is little willingness to intervene militarily simply to support a regime "more favorable to US interests" where those interests are unspecified or of too general a nature.

—But limited intervention could be a viable option in support of specific interests which, in light of the increased US dependence on resources from abroad, would probably tend to be of concrete economic significance—important to the economic well-being not only of ourselves but also our primary allies.

—There was some feeling that in light of Vietnam the threshold on the commitment of US ground forces has gone up, but disagreement on just how high that threshold now is. In any event, there was a feeling that the presence of indigenous local support was increasingly important in any decision involving US intervention, both to make the intervention politically acceptable and practically possible.

—While our allies would certainly not be unanimous, it was felt that at least some European countries would support, diplomatically at least, a US

intervention—but again provided specific, concrete common interests were involved.

It was recognized, however, that Soviet intervention outside the Eurasian land mass on the scale manifested in recent months presented a special problem which in itself might require a US response even where specific, concrete economic interests may not be involved. Dov Zakheim's paper described a Soviet model of intervention that contrasted sharply with the aircraft carrier emphasis of our own activities. Under the Soviet model, the Soviet Navy is used largely in a defensive posture to guard against US carriers and in that way to support the insertion of ground forces (largely drawn from other nations) and the deployment of Soviet land-based aircraft. We explored the vulnerabilities of the Soviet approach and sought to determine what the United States could do in the way of "preclusive intervention"—thwarting Soviet activities by means short of a matching intervention by the United States on a similar scale. We came to several conclusions:

- First, our base structure may have begun to stabilize at a level which gives us somewhat greater worldwide access than the Soviets. Thus, while the difficulties of strategic access through key maritime straits, to port facilities, or in overflight rights have increased, this affects the Soviets to a somewhat greater degree. We can act through diplomatic channels to rally opposition to Soviet intervention and, if not deny them strategic access, at least raise the costs they will have to pay politically to gain such access.
- Second, as to naval forces, the United States has generally arrived on the scene after Soviet naval forces are already in place. Where US forces could be first on the scene, this could work to our advantage in perhaps deterring Soviet activities altogether.
- Early arrival would in any case provide at least the option to preclude the arrival of the Soviet intervention force, through mining operations, rendering airfields inoperable, and the like. Some panelists contended that this put the United States in a position both to display its own will and to test Soviet intentions.

The panel then identified those circumstances in which the interests at stake for the United States or its allies might be deemed substantial enough to warrant significant US intervention. These included: a shift in the Sino-Soviet situation; denial of access to oil from the Persian Gulf; a threat to the security of Israel; and a threat to the security of Japan (with Korea taking on significance in that context).

We selected a scenario involving a US intervention to insure the continued availability of oil from the Persian Gulf. We assumed successive levels of Soviet involvement in part because most interests important enough to warrant significant US intervention seemed to have an equally significant importance to the Soviets. We sought to determine using this scenario (1) whether a US intervention capability exists, and (2) whether it is adequate compared to Soviet capabilities. We do not have any specific conclusions or recommendations arising out of this exercise, but some insights seemed useful:

- The use of nonaircraft carrier intervention capability (specifically airborne forces) was important, as these forces were the ones that could arrive soonest in the absence of any significant advance warning. Even then, their arrival times were considerably later than optimal, and forward staging areas

might be required. With adequate notice, of course, marine forces could be moved into place by sea and be used in any intervention activity.

- Several panelists were concerned that these airborne or marine forces were neither properly trained nor equipped to perform the required functions in the environs of our scenario.
- If airborne forces were used in any initial action, the subsequent arrival of marine units, but more particularly aircraft carriers, became crucial for providing both air cover and logistical support to the forces on the ground.
- While the United States had the advantage in our scenario of intervening prior to Soviet action, generally the projection capability of the Soviets was not superior to that of the United States (and some panelists would argue that it was significantly inferior).
- The progress of the scenario was quite sensitive to assumptions about participation by respective allies, leading at least some panelists to suggest that we should consciously integrate our arms sales policy into our planning for contingencies outside the European theater.
- Things began to get out of hand from the US perspective when the Soviets used their Eurasian ground forces to bring pressure on countries surrounding the Gulf (in our hypothetical case, Iran). The choices for the United States became quite difficult at this point.
- Finally, the availability of Turkish forces and base areas would be very significant in our scenario.

In the last portion of our discussion, we focused on the problem of integrating our non-NATO requirements with our strategy and force planning for the NATO Central Front, particularly the naval aspects. Because the navy has so many different roles—forward deployments in crucial areas in peacetime; providing resupply capability in the event of a long war in Europe or in the event of long warning time; safeguarding access to Japan; and participating in the kind of scenario we had discussed—it is difficult to describe the specific capabilities required or to establish the baseline for sizing the force. The United States may be spared the tough choices since roughly at least a 12-carrier force level seems assured until well into the next century. Several on the panel felt that the United States should be focusing more on the use of naval assets less potent than the carrier task force for operations in conjunction with other service forces, and should be looking at what technology has to offer for the naval forces of the next century.

The panel briefly addressed how the MBFR negotiations fit into the foregoing discussion. Whatever might be said for the trade originally envisioned in the NATO proposal, the context of these negotiations has changed radically since their inception. Not only is the domestic US political situation different, but substantial NATO force improvements are underway or planned in Europe. Several members of the panel expressed concern about any MBFR agreement involving the US Option III package, for fear that equipment limits might be involved which would interfere with NATO's improvement plans in Europe—something that could be particularly adverse if NATO obtained significantly less from the Warsaw Pact than what NATO had sought in its original MBFR proposal.

We looked at revised objectives for the talks, and a suggestion was made that NATO might seek to recoup lost warning time through stabilizing measures or through the

repositioning of forces away from the front. But few panelists saw how the talks could significantly improve the conventional military balance. In the absence of more concrete objectives, several panelists felt that the talks should proceed but without special emphasis and that the talks should not be permitted to either hamper NATO's modernization efforts or create political problems within the NATO Alliance.

Perceptions of Conventional Force Sufficiency

Rapporteur's Report

Colonel Daniel K. Malone, USA

The announced topic of Panel 2 was "Perceptions of Conventional Force Sufficiency." By good luck and good exercise of parliamentarianism, Panel 2 devised and followed an agenda which achieved a vivid snapshot of the topic from the key perspectives of the United States, European NATO members, the USSR, and Third World powers, doing the topic the justice such a panel can attain and hopefully contributing useful evaluations of the dynamics of each perspective.

The Chairman's Report synopsized the key findings and agenda highlights. This report will consequently focus on the supportive ideation and the agenda sidelights which for press of time could not find a home in the oral report. The two excellent papers by Brigadier Kenneth Hunt and Dr. Dov Zakheim provided the background from which our agenda was derived, revised in session, and agreed. Rearranging the agenda according to some of the discussion's principle excursions will provide the perspective from which this report is written to avoid repeating the Chairman's and to include interpretation of innuendo and moot omissions which time disallowed in the oral report.

First, in the NATO arena, discussion began by noting the increased interest in conventional tactical balance resulting from Soviet achievement of rough strategic nuclear balance with the United States. Two threads of thought ran through these discussions: one following the scale from strategic nuclear war, to theater nuclear war, to tactical nuclear war; the other following the scale from conventional "sufficiency" for deterrence, to "sufficiency" for defense to a political stalemate, to "sufficiency" of a defensive strategy capable of obtaining the political upper hand should war occur.

Concern for decoupling the use by the United States of strategic nuclear options to thwart Soviet conventional attack in Europe formed a third set of thoughts to bridge the two major themes referenced above.

The word "strategy" is much abused in recent times. Thanks to such happenstance as the US adaptation of the word in naming the Strategic Air Command and the Soviets' in naming the Strategic Rocket Troops, the word strategic is often relegated to the notion of intercontinental. Even a World War I or II geopolitician, or a political or military planner, would be amazed to hear discussions such as ours bypassing the notion of strategy in a "conventional" war in Europe and talking instead in the currency of massive retaliation, limited response, and the like. But such is the extent and criticality of technological change that has shaped that perception.

Unfortunately lost in the melange are the notions of strategy and coalitions on the ground within the continent itself, which lack caused the significance of some of what was said to be missed.

Before answering the question of sufficiency of NATO conventional forces, the question must be answered, sufficiency for what military strategy? Herein, it seemed from the discussion, lie the differences in perceptions of the US, European, and Soviet observers of the balance, and the more finely tuned differences of each of the members of the coalition—undoubtedly of both current coalitions.

Sufficiency to most European NATO members, it seemed, means sufficiency to inflict a lot of damage, hence to deter Warsaw Pact attack, but it also means insufficiency to assure NATO defeat without US nuclear participation. Europeans do not view this as a strategem to insure nuclear war, but one to insure that US nuclear deterrence remains operative. The strategem also argues against NATO increasing defense budgets to improve conventional forces.

Sufficiency to West Germany, according to panelists who reported on their visits and interviews, means to prevent loss of territory, again invoking nuclear deterrence or tactical/theater nuclear war. Being on the "front line" and lacking tactical depth of defensible terrain demands such a political determination of military strategy.

Sufficiency to other European members of NATO and to France was only noted in passing, to note specifically that each views the problem and national strategic objective somewhat differently.

Sufficiency to the United States seems to equate to a strategy of fighting a conventional war to win, though no one seemed sure whether the strategic goal, hence force required, was designed to assure political stalemate or political success (return to status quo). Left unsaid was that the outcome of any war would certainly transform the present composition of coalitions, though the only contingency discussed was to raise the questions: (1) How would the United States recoup if forced out of Europe? It would not be the end of the war. (2) Would the United States know how to cope with Soviet power elsewhere in the world? The superpower competition would continue. By innuendo, the panel's perception of strategy seemed to envision a war to achieve political stalemate, a rather feeble objective though stronger than the European perception of sufficiency to inflict damage but lose by conventional means alone.

Against this scale of strategies, a corresponding scale of NATO conventional force improvements was discussed. Apart from welcome improvements identified in the Long Range Defense Plan recently agreed to at the NATO summit, discussion focused on reserves.

The term "reserves," like strategy, suffers from multiple meanings, ranging from individuals who can be called into service to standing formations of active force units poised to strike counterblows or exploit success, i.e., operational reserves. Using operational reserves is the only means a commander has at his disposal to influence the battle. Without reserves, he can only watch. Against the seemingly accepted Soviet strategy of a fast offensive politically disrupting the NATO coalition by seizing significant territory, no panelist appeared satisfied with the present sufficiency of reserves to counter-attack to operational depths (were that NATO strategy), to eject Soviet tank columns from a cordon defense, or to destroy breakthroughs and pockets (should mobile defense be the strategy geopolitically selected or militarily imposed). Not many panelists seemed

satisfied with present NATO ability to reinforce "the line" to the level achieving sufficiency of defense even when tied to US-Soviet intercontinental nuclear engagement.

General agreement seemed to settle on present sufficiency for a strategy of conventional deterrence, not conventional defense, lowering the threshold of nuclear war and raising the significance of tactical, theater, and intercontinental nuclear deterrence.

Various means to reinforce NATO by reservists or by constituting operational reserves were proposed in Brigadier Hunt's paper and by various panelists. As noted in the Chairman's Summary, most of these force improvements did not impose severe economic burdens, but all required ingenuity and some novel approaches.

Discussed, at one extreme, was the division of existing units into a larger number of similar units with full equipment, intending to fill the personnel complement with individual reservists or territorials. Panelists noted in discussions that the UK intends to put every man in the line, totally emptying the training base, with nothing left over should the war be prolonged. Another program for management of individual reservists was noted in the Netherlands' RIM system, whereby recruits passing through normal induction, training, and release cycles are placed on extended leave (by company-size units) to provide their continued eligibility and availability for military service. According to one panelist, the Dutch system, with a 15 percent increase in cost, triples the number of divisions they can field.

Other variants were discussed, aimed at creating at least local reserve forces and eventually operational reserve divisions as a counterattack force. On the light end, some discussion proposed that territorials and reservists form units to displace active ready forces where terrain favors defense. Brigadier Hunt's paper describes the approach more thoroughly, listing antitank, antiaircraft, or light infantry work as possibilities for reserve units' tactical roles and missions, strongbacked by cadres of regulars. The more heavily armed and better trained regulars are then released to provide the commander the operational reserves he needs.

The rapid reinforcement by five to seven US divisions was considered highly significant, though their transport and delivery were considered interdictable. Finding an airfield at which to land in the all-out land/air/sea battle that would likely occur was noted as especially problematical, left to the outcome of air/antiair activity in the earliest phases of war.

Six German Panzer Divisions were proposed as a target number of divisions which would provide, from the aforementioned reserve callups into lighter units, the sufficiency required for active defense but "not at the expense of deterrence." Discussion pegged nine German Panzer Divisions as the number if a conventional defense alone were to adequately support a strategy to achieve a political stalemate or, with luck, a politically favorable outcome. Due to military and societal differences, it was noted that the arms, armament, and tactics of a German Panzer Division were uniquely required in this role. The different sets of arms, armament, and tactics of Panzer, armored, or mechanized (and presumably motor-rifle) divisions of other nations would not fit the demands of such a strategic plan.

Although the discussion focused on ground divisions, airpower was not ignored. However, time disallowed analysis to arrive at a similar quantification of requirements. Other excursions such as discussing the maintenance of political coordination and cohesion, and maintaining the cohesion of military command and control, were likewise unfortunately foreclosed.

The role of naval forces received somewhat more attention but unfortunately not much more. Some of the panelists seemed to entertain the notion that a ground (and air) war in Central Europe could be politically insulated from war on the NATO flanks, including the seas. Others found the notion incredulous, both from the historical point of view and from the facts of the moment. The Soviet Union, the latter group pointed out, was a land power in WWII but is today a global power. Moreover, the panel considered a Europe so seething with political unrest as to evoke war would involve most of the world order—perhaps, it was suggested, an overturned Spanish regime calling for NATO blockade to prevent Soviet port access, or a reoriented China pragmatically favoring a presumed Soviet victor should the US and NATO appear weak, or moves against Japan or sources of oil.

The far-ranging discussion led to no concrete conclusions as to the specific scenario of global war, returning instead to the confines of the agenda, i.e., war for Central Europe. It was tacitly agreed that naval warfare would range from North Cape to the Dardanelles, but the specifics had to be left behind. The point was made, however, that should the war at sea be lost, the European Peninsula would be lost with it as ammunition, oil, and food, likely in that order, were exhausted.

Obviously, the insufficiency of funds for nine divisions, maybe even six divisions, must be weighed. So too, it was offered, must trade-offs of, say carrier task forces, P-3's with Tomahawks, or Air Force squadrons. Although the panel could sharply focus the issues and indicate a selection of answers, some critical strategic analysis will have to be carried out to find what may actually be the critical "swing strategy" among the force options available within the NATO/Warsaw Pact military milieu.

But first, this author will observe, before discussions of hardware, of numbers of units, and of tactics can begin, a strategy must first be pegged down.

Soviet perception of what Warsaw Pact strategy should be was accepted unspoken—an offensive one, aimed at destroying the political cohesion of NATO by swift seizure of key terrain. Though not much discussion time was given to assessing the Soviet view of their own sufficiency, the few observations that were made fit the perceptions of most knowledgeable analysts of Soviet affairs. Despite the more comfortable feeling resulting from continuous conventional force modernization, the Soviets still feel their numbers are insufficient to overcome the awesome (to them) NATO Alliance. Long sufferance of inferior quality leads Soviet planners to respond with superior quantity. What happens when quality improves such as with the T-72, Fencer A, and self-propelled artillery, but quantity remains the same, was not explored. However, enough of an excursion was followed to agree that:

1. Warning time has decreased due to increased conventional strength.
2. Historically, no army has leaped off in a linear fashion, but has massed reserves for striking along main axes of attack, so there is presumably a limit to how short a warning might be.
3. Soviet strategists make no distinction between "conventional" and "nuclear" warfare as do Western military theorists.

Consequently, the discussion flowed to Soviet perceptions of nuclear sufficiency, our own perceptions, NATO's, the balance, and the critical linkage of NATO conventional defense to the US intercontinental nuclear deterrent.

With strategic parity achieved, two things occur. First, the credibility of a US-USSR doomsday exchange as an escalation from conventional war comes into question. But the Europeans, the panel agreed, would not accept total reliance on conventional forces for deterrence. Consequently, a second factor emerges, shifting the focus of interest to tactical and theater nuclear capabilities.

In this arena, the United States and, therefore, NATO until recently enjoyed a clear superiority in options. Today, the SS-20 has limited the superiority in options to nuclear artillery, and soon that, too, is expected to change.

Discussion turned to address the SS-20 enigma by itself, and to address the effect a balance of tactical and theater nuclear options brings to bear on NATO's perceptions of nuclear sufficiency.

The Chairman's Report summarizes the panel's findings; that the unease of, particularly, the Federal Republic of Germany (FRG) calls for a riposte to the SS-20, either by "psychopolitical measures or by hardware solutions." The reason the panel reached the conclusion was the recall by some panelists of how mesmerized the FRG especially, and Europeans generally, were with Soviet IRBM's which held Europe hostage to US attack on the Soviet homeland. The mesmerization faded as US intercontinental (or submarine launched) missiles targeted the threat away. The mobile SS-20, contrariwise, can survive a NATO strike. Targeting the SS-20 presents yet unsolved problems. What form could the riposte be? An in-theater cruise missile clearly putting Soviet cities and factories at risk? An increase in NATO-dedicated Poseidon RV's? Both proposals met with the counterargument that such action could tend to establish a goal of a European in-theater strategic capability—a goal unattainable due to resource constraints, and at the same time severely chopping away at the linkage between conventional European deterrence—not defense—and US intercontinental nuclear power. Moreover, it was pointed out, a European-controlled cruise missile or SS-20 mirror image would not affect the battle line situation by striking at units in contact, an important quality in a short-war scenario.

The psychopolitical and hardware solutions merged in one sequence of debate. Giving the FRG "their own key" was proposed as a solution, but one which, from the German side, tends to decouple US ICBM's. As another panelist counterargued, withholding a weapon when it is available—the neutron "bomb"—serves to equally decouple psychopolitically from the US side.

The full impact of the shift from superiority to so-called sufficiency, to insufficiency in theater and tactical nuclear weapons, will come, it was noted, in the mid-1980's when the Soviets possess the one remaining NATO option of nuclear artillery and "someone leaks to the press that the Soviets have the neutron bomb."

Discussion turned to the effect of the balance of options on NATO sufficiency. The question was asked, could tactical nuclear weapons be used to stop an armor attack? With Soviet and NATO options equal, the answer derived, the inevitable exchange would lead to a theater nuclear stalemate.

Another panelist pointed out that however elegant some of the contradictions might appear, Europeans measure superiority by numbers, specifically in strategic weapons. The Strategic Arms Limitations Talks may provide the psychopolitical solution we seek.

Mutual and Balanced Force Reduction (MBFR) negotiations and their possible effects on the SS-20 question were also entertained. Because it took 5 years to get the

original proposals through the US and Allied governments, it was asked, "do the presently changed relationships leave the proposals valid, especially Option III?" Some noted that the original numbers have been reduced, warning that establishing a bottom line was omitted when the plan for negotiations was devised. Others noted the process has gone too far to be turned around. Still others noted that the idea was a political move to preclude unilateral withdrawal. Opinions split as to holding optimistic or pessimistic hopes for MBFR, but general agreement fell in these areas:

1. The changed conditions leave the original proposals sound but Option III dangerous.

2. Weapons like the SS-20 provide a chance for the most creative use of MBFR negotiating mechanisms.

3. We should not negotiate away the ability to modernize, since we certainly need tactical nuclear weapons at the low end of the scale which will not be so likely to bring Armageddon.

4. He who breaks them off gets blamed.

These thoughts conclude the first day's discussions.

Dov Zakheim's paper and Steve Hadley's report address the essentials of the second day's discussion. A few remaining key points may serve to reinforce the oral report and to provide a framework into which to file some of the logic that emerged. Although 11 questions are included in the agenda covering the second day's deliberations, two questions summarize the issues at hand: would the United States intervene in a non-NATO crisis? Could the United States intervene in a non-NATO crisis? The first question devolves on the convergence or divergence of national interest and national will. The second devolves on forces in being and public will to fund a "half-war" capability. A perhaps complicating factor of internal politics was highlighted by the paper's author: "Systems last a long time; political whims change overnight." The complications were discussed in terms of public reluctance to "get involved" as an aftermath of Vietnam, and of public support of the programs providing a non-NATO intervention capability.

The panel agreed that the legacy of the Vietnam involvement is not that the United States would not intervene again, but that the rules for intervention have changed. Specific rather than vague objectives would be required.

The panel also reached tacit agreement on two key facets of the issue heavily affecting force structure, deployment base infrastructure, and the nature of intervention that might occur. First, likely future interventions would entail European or trilateral as well as US interests because, whereas the Vietnam war did not challenge their economic well-being, today most probable problems do. Second, the remaining areas where US intervention might occur carry sufficient interests to the Soviets to invite their intervention as well.

The consequence of the first was not specifically defined, though US access to bases, landing, refueling, and bunkering rights would certainly be enhanced.

The consequence of the second is that particularly a naval force moving to intervene would face the same kind and, perhaps, same level of threat as it would should Central Europe itself be at stake. The Soviets expect us to send carriers; they send anticarrier forces.

The nature of intervention also affects the kinds of forces required. The panel categorized intervention as (successively) covert, supportive, coercive, and preclusive—a

set of terms whose discussion led some panelists to the conclusion that getting there first—before the Soviets—would provide a strong advantage of initiative. Others argued that it did not make much difference. Discussions ran along the lines of the paper, discussing relative merits of kinds of forces—troops, air squadrons, carrier task forces, and missile patrol boats. Those holding the side that being first meant little argued that Admiral Gorshkov's navy is built around fighting a nuclear war with little efficacy for conventional battle, so it will not take high risks. It might be, one panelist said, a Potemkin Village you could sail right through. Discussions evaluated the merits and demerits of kinds of ships, especially missile boats in the hands of small states, and carriers possessed by the United States, and evaluated kinds of forces most suited to the two roles agreed most germane to non-NATO intervention—presence and projection. The panel seemed to come down favorably for the carrier task forces in most cases because in either presence or force projection, the force must be capable of being exercised ashore to obtain the desired outcome, because with the diffusion of higher technology weaponry, aircraft may comprise part of the opposition and carriers may be the only way to get aircraft of our own to the scene, and because of the force necessary to face potential Soviet challengers.

A particularly strident theme of both days' discussions focused on national will. Arriving first or second was characterized as meaningless provided the will were present to act. The use of a carrier to threaten intervention was criticized because in the perception of Third World states, a carrier constituted an insufficiency of conventional power unless the will to employ it was evident. Today, the paper's author noted, you might have to send three carriers to be taken seriously.

Willingness, perhaps another word for credibility, cropped up frequently in the first day's discussions as well. To have a sufficiency of military power for any strategy is not enough. The will to use it must be evident or deterrence does not exist.

One brief discussion occurred the first day which underscores the tenor of concern of the panel for national will. Because the particular excursion concerned naval roles and missions, it will be better understood at this juncture following an essentially naval discourse, rather than being overshadowed as it was by discussions focusing on ground forces on the Central Front.

There seemed as much confusion or uncertainty over naval strategy as over military strategy. Terms such as sea control, denial, antisubmarine warfare, and so on were tossed out on the table, but discussion unfortunately turned back to land. One panelist tried to shed some light on the subject by discussing the historical examples of the French and British fleets, citing our own as tending more towards the French example of force projection vice the British of naval presence. Unfortunately, the discussion turned back before identifying the phase of the French Empire to which the speaker referred—prior to Napoleon's attempt to invade England—"Let us be masters of the straits for six hours, and we shall be masters of the world"—or after projecting his naval power to the West Indies, sailing back, and being sunk at Trafalgar—or earlier in the Battle of the Virginia Capes which left the British force sunk and left their land forces faced with surrender or destruction ashore. Be it presence or force projection, Cornwallis gave up his sword while the fifes and drums played "the world turned upside down."

The point is, naval strategy must first and foremost begin with ships in kind and numbers to sink the other fleet. There must be visibility of that force and of the will to use it if pushed. Otherwise, presence means nothing and force projection is a waste of fuel.

For Central Europe/NATO, if military strategy is to fight to a political stalemate, the existence of NATO naval power around the European Peninsula is most important. If the military strategy is furnished an insufficiency of conventional force and if the will to use nuclear weapons to reach a stalemate falls down so as to politically disadvantage NATO at the end of a conflict, the existence of that fleet becomes critical. The geographic separation of North Cape and the Dardanelles may have misled the panel because of its focus on the North European Plain. It was too bad discussion could not have addressed the geopolitical correlation of these areas to the Central Front, especially considering contemporary technological means available to implement various strategies, and the necessity to harmonize military strategy ashore with naval strategy afloat.

As the agenda unwound, the panel did manage a brief excursion into the need for more of a "combined forces" Navy—employing perhaps land-based air with antiship weaponry, taking advantage of today's level of technology to achieve range and lethality that were previously absent.

In the last formal panel session, Tuesday afternoon, playing through the scenario of intervention in Saudi Arabia to reverse a coup d'etat was intended to address the "could" part of the question of non-NATO intervention. The locale chosen was a severe one, requiring bringing along everything from drinking water up. The scenario was played out primarily to compare Soviet and US capabilities that could be placed in contraposition on the ground. Due to geography and transportation limitations, Soviet forces suffered the same constraints as did our own, such that until Soviet Eurasian land forces mobilized, US forces held the upper hand in local combat power. It was recognized that transport times and supportability would not allow such initial deployments as were hypothetically made. Moreover, the panel underscored the fact that politically as well as militarily, it is folly to put out a brigade (as in an earlier British example used) unless the brigade will succeed, can be backed up, and recovered. Early exit rather than permanent deployment was considered a key to success of any military intervention.

What the exercise pointed out was that although intervention forces such as the 82d Airborne Division and Marine Amphibious Forces afloat exist, the sustaining capability and (for the Army forces) means of transport (global and tactical) are at best sketchy. The marginality of transport extends as well to tactical airlift, it was noted, particularly if transport from southern Iranian ports to the northern frontier were called for. Lack of time prevented detailed discussion. However, it was agreed that further attention must be given our own capabilities and an eye kept on corresponding Soviet evolutions.

Three footnotes fall out of the discussions. One, an aspect of the sufficiency question only hinted at, is that design of ships, planes, weapons, and organizations must, like design of a level of sufficiency, conform to a specified strategy or set of strategies, applying technology to the politico-military task at hand. Running through the discussions was a tone of national retrenchment as the new era of nuclear parity and a new shift in politicoeconomics among the trilateral states take hold. Reliance on force projection to, e.g., the Persian Gulf as in our example, or to NATO to achieve the five-to-seven-division required reinforcement, would play a more important role in US future practice as a world power. But much of our new equipment is not easily air transportable. Prestocking provides only a partial solution. The lack of transportability to move forces to, say NATO, or remove them to project power elsewhere, works against the strategy of retrenchment with global projection in mind. Technology must bend if the strategy is to succeed. The lack of such mobility is a subtle aspect to the question which was raised of the "insatiability" of NATO requirements against other needs.

A second footnote hinges on the question, is the emphasis on NATO solving the wrong challenge? Is NATO, clearly our most vital interest, capturing our focus only because it provides the most familiar paths to problem solution, i.e., gadgets, while the more critical battle is waged by surrogates in an "end run" of political ideology and guerrilla warfare? One panelist believed the United States could be as successful with surrogates if we tried, but the suggestion was received, like the suggestion to use covert intervention, somewhat uncomfortably. Only once were differences in ideological outlook raised; only three times was the word "bourgeois" used, with its distinctions of a world view seeking the general good vice the world as a zero sum, two-person game; and never was the factor of the political ideological struggle discussed, though psychopolitical answers to the SS-20 were vainly sought. The will to sustain a free enterprise system must first recognize the ideology which goes with it and, second, must promulgate it. Retrenchment does not fit.

The third footnote concerns Turkey. Panel 2 (regional stability) at last year's conference singled out a policy change to lift the arms embargo against Turkey as one of the most significant measures the administration could take to prove to Turkey that her brief (in the historic sense) sojourn with Europe and its social system should continue. This year, Panel 2 noted that only 30 percent of Turkey's tanks were operable and even fewer aircraft, because the embargo continues. As of this writing, 26 July, the Senate has voted to lift the ban.

No one should confuse correlation with causality or use *post hoc ergo propter hoc* arguments to support the influence of these National Security Affairs Conferences. But the example should prove that issues discussed are real; that actions are in demand by the participants in their positions in government; and that panels such as ours provide a unique sounding board to explore the alternatives and the consequences.

The agenda worked up for Panel 2 is a particularly good one. A copy is included. A reader's best evaluation of the panel's proceedings will come from perusing the 25 or so questions the agenda puts forth. It will have been enough if a reader can find in these writings an answer or a path to one for each of the serious questions posed.

PANEL 2 AGENDA

Perceptions of Conventional Force Sufficiency

- I. The Context of Conventional Sufficiency (Part I comprises the panel's assumptions.)
 - A. Strategic nuclear parity
 - B. Improved capability of Soviet forces in Europe
 - C. Emerging Soviet capability to project military force beyond the confines of the Eurasian land mass
 - D. Emerging regional powers of substantial military capability
 - E. Increasing US dependence on the economics and resources outside the continental United States
- II. Conventional Sufficiency in the European Theater
 - A. The political context: trends affecting conventional sufficiency
 1. What are the US, European, and Soviet perceptions of the conventional balance in Europe?
 2. What is the impact of strategic nuclear parity on this perception?
 3. What is the worldwide context of deterrence in the European Theater?
 - B. Conventional sufficiency: tasks of conventional forces and their current adequacy
 1. *Detering aggression*
 - a. Is the "linkage" to the CONUS-based US strategic deterrent still credible in an era of strategic parity?
 - b. What should be the direction of our theater nuclear modernization effort (in both number and type of weapons), considering both "linkage" and the need for in-theater deterrence?
 - c. What criteria or standard should be employed to assess the sufficiency of our conventional forces from the standpoint of deterrence? How do current forces measure up?
 2. *Preventing political coercion*
 - a. What are the determiners of the West's ability to resist such coercion?
 - b. What role do conventional forces play?
 3. *Repelling attack*
 - a. What are the requirements for a "sufficient" force should deterrence fail? Where do current forces satisfy and fail to satisfy these requirements?

- b. What alterations in US force structure and concept are required to insure conventional sufficiency?
 - c. What alterations are required in European force structure? How should the Europeans be approached in suggesting these changes?
 - d. The worldwide context of conventional sufficiency in Europe: What is the role of conventional naval forces?
- C. The role of arms control: MBFR and beyond
 - 1. What role can arms control negotiations play in assuring conventional sufficiency when NATO finds itself numerically inferior in most categories of weaponry?
 - 2. Should current objectives be revised?
- III. US Policy Objectives and Constraints in Non-NATO Contingencies
 - A. The Half-War Strategy: Is it still a viable option for US policy?
 - B. If not, what are realistic US objectives in non-NATO contingencies?
- IV. Conventional Sufficiency in the Non-European Context
 - A. The Soviet model of force projection
 - 1. Is the Soviet approach properly described as a multiservice one with Soviet naval forces playing a subordinate role to Soviet air forces and non-Soviet ground forces? Or does the Soviet navy potentially have a much larger role?
 - 2. What are the vulnerabilities of the Soviet force projection model? What means and devices might be employed to check its use short of matching US intervention? (Using one or two specific scenarios)
 - B. US capacity for force projection
 - 1. What are the most likely scenarios in which the United States would want a force projection capability outside the European context?
 - 2. What are the current constraints?
 - 3. What should be the US model of force projection? What types and levels of forces, in light of these constraints, are required to provide a "sufficient" force projection capability?
 - 4. How should this model and its hardware requirements be integrated into current European-based forces as part of our national strategy and force planning?

Credibility and Balance In Conventional Coalition Strategy

Kenneth Hunt

The aim of those who chose the title of this paper was, I take it, to prompt an examination of whether or not there is in Europe a conventional element in the defense strong enough to give confidence to ourselves and to deter the other side; and if not, what might be done about it.

To any question about whether there is enough defense the answer can only be both subjective and imprecise; it is not something that is responsive to exact analysis. A comparison of the strengths of men and equipment is of some help, but neither simple to make nor sufficient. There is no fully satisfactory way to compare weapon systems in particular or relative advantages in general, and if there were that would not settle the issue. Qualitative factors such as training, morale, leadership, doctrine, tactical initiative, and geography also have to be taken into account, and they cannot be given exact values or reduced to numbers.

THE POLITICAL CONTEXT

In the setting of this paper certain things are to be taken as given: there should be an overall balance of power between the United States and allies and the Soviet Union and allies; strategic nuclear parity will continue to exist; the strategy of flexible response will be maintained; and there should be both the conventional strength needed for deterrence and the military capabilities required if deterrence fails.

There ought to be little quarrel with these four points; yet, since we are talking about a coalition, it must be said at once that there is in practice some difference of view between members of the Alliance on the size and shape of the conventional forces to be provided to meet the contingency of deterrence breaking down. West European states certainly want to maintain deterrence, which is built, from their standpoint, around the identification of the United States with their own security. They see the credibility of deterrence as essentially based on two things: on any threat to their security being also a threat to the United States; and on a link existing between the European battlefield and the nuclear strength of the United States.

The preferred strategy for Europeans will thus always have a nuclear kernel to it, but the need for strong conventional forces is nonetheless increasingly accepted. For many reasons: such forces are an essential component of deterrence; they defend territory in a

way that nuclear weapons cannot; they are responsive to lesser contingencies; and they limit the risks for the United States (and others). But conventional forces that were too strong would be feared in Europe actually to weaken deterrence, since they would tend to weaken, even cut, the nuclear link between the battlefield and the United States. Such a defense would, furthermore, run the risk of inviting protracted conventional conflict in Europe, with all the destruction that this would entail. While Europeans have for the most part slowly come round to recognizing the very important role that strong conventional forces play in deterrence, they stop short of wanting to build up this role at the point at which the nuclear element is downgraded.

The result of this, as will be discussed later, is that the defense does lack balance and may well continue to do so. A willingness to spend a little more money is currently enabling measures to be taken to redress many weaknesses, but it seems doubtful if European allies will want to see their security resting too strongly on conventional forces.

In addition to this fundamental point, there are other politico-military factors which it would be unwise to ignore. Firstly, Europeans have grown accustomed to present levels of defense expenditure and would find it politically hard to raise them significantly in the absence of any sharply heightened perception of threat. It is worth remembering that the recent decision by a number of them to increase the resources devoted to defense by three percent more each year in real terms has much to do with the broadly shared concern at the Soviet military buildup and adventurous foreign policy in Africa, though it also needed an American initiative to prompt it. If Soviet military activity lessened or Soviet policy was thought to be benign, European governments would be very likely to turn their minds and their money gratefully to things other than defense.

Secondly, while the armed forces of the Alliance will remain under integrated command, they are likely to continue to be multinational for most peacetime purposes, which means there will still be differences in manpower systems, equipment standards, doctrine, and organization. Radical changes right across the Alliance board are therefore inherently improbable and the introduction of new technology is bound to be uneven.

Thirdly, the existence of national sectors in central Europe, necessary to establish the allied nature of deterrence, adds to the multinational character of the forces, though admittedly mitigating some of its military disadvantages. It imposes a military pattern that is potentially weak, with sectors varying in strength and affording opportunities for an enemy to exploit this and open up gaps between them.

Lastly, forward defense is a concept that is also politically necessary and, to a degree, essential for deterrence; the ability to start fighting on the frontier is needed for that reason if for no other. The concept does, however, pose well-known military problems; it may involve standing on ground that does not easily lend itself to defense, and holding large numbers of troops forward both risks their being destroyed in detail and makes it difficult to create sufficient operational reserves in the hands of the commanders.

CONVENTIONAL SUFFICIENCY

With the above considerations in mind, some analysis of sufficiency can now be attempted. A numerical comparison of formations and weapon systems shows NATO as uncomfortably inferior on almost every count. These comparisons are familiar and are not seriously challenged except by the Warsaw Pact. There seems no need to go over them again here; they can be found in a number of documents, as for example the annual editions of *The Military Balance*.

As far as deterrence is concerned, it can nonetheless be said that NATO defenses are of such a size and quality that any attempt to breach them would require the Warsaw Pact to mount a major attack, the consequences of which would be incalculable. The risks, including that of nuclear escalation, must impose caution on the Soviet Union and make military aggression appear unattractive.

This brief preliminary statement suggests that there can be some confidence in deterrence on the central front at present relative force levels. An analysis of the opposing strengths in the north might not seem to lead to quite the same conclusion, particularly as allied forces from outside might not be involved initially. Deterrence in the north rests however on the indivisibility of Alliance security, not merely on the immediate strength of local forces but on the link with allies, though the terrain has its own part to play in the organization of the defense. A somewhat similar set of observations might be made about the southeast flank, though here there is an important allied peacetime presence. (This statement leaves out any consideration, for the particular purposes of this paper, of the continuing dispute between Greece and Turkey, with its attendant Alliance frictions and their disturbing effect on the defense.)

But if there is some confidence in the credibility of deterrence, what if this breaks down? Could the forces then conduct a conventional defense and could they ensure the integrity of allied territory? The answers to these questions must be much less comforting. Soviet forces have been developing an increased capacity for unreinforced, standing-start attack and without doubt have established an ability to attack with very little warning indeed. NATO in-place forces have not been improved sufficiently either in size or strength to match this greater Warsaw Pact capability, nor is there any certainty, if attack did in fact come with very little warning, that the reinforcements on which they rely would arrive in time to help withstand the initial shock of massive armored attack. Governments could well be reluctant to move men at a time of tension, or mobilize reserves—yet that is the price of maintaining fewer standing forces on the ground than is militarily prudent. The claims of forward defense on standing forces are heavy. To be able to hold ground along the whole length of the border, and to be able to get it back if lost, calls for forces a good deal larger than would be required for a mobile defense concept that used militarily favorable ground and was willing in the right circumstances to allow the enemy to penetrate to some depth and become over-extended.

Given the present NATO-Warsaw Pact balance, the staying-power of NATO ground forces must be in question. The formations on the ground in peacetime are far fewer in number than those that could be brought against them, yet they could quickly be outnumbered still further since, with the advantage of the initiative and possibly surprise, the Warsaw Pact rate of reinforcement could be much quicker than that of NATO in the early stages. The strain on the defending forces and on these reinforcements that could get to them quickly would therefore be very heavy. Field commanders would start with very small operational reserves, if any, and might not get reinforcements fast enough to be able to create them. The result could be that frontline formations could be worn down by continuous fighting, day and night, for lack of others to relieve them or augment them.

It should be stressed at this point that there are not all that many reinforcing formations in NATO that could arrive in time to affect the battle in the first 30 days, largely consisting as they do of a few US divisions that could be flown in to marry up with stockpiled equipment, plus some French divisions if these were made available.

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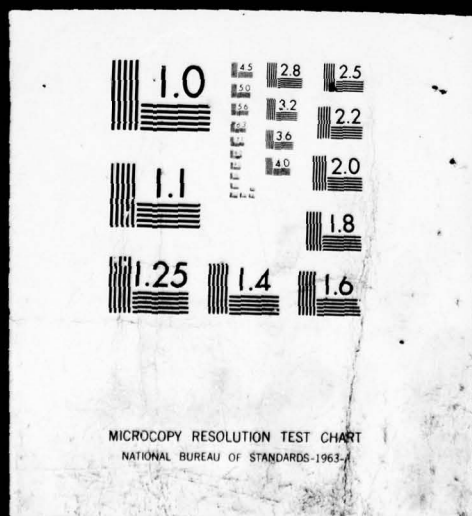
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Other allies have large numbers of individual reservists but very few additional formations, since there is no equipment with which to form them. British forces in Germany, for example, could be doubled in size quite quickly by adding men to divisional units—though whether quickly enough is a moot question—but there is nothing much to come after that. There are no plans for using or giving training to the quite large numbers of men in the reserves who have had fairly recent active army service, and no plans at all for any wider call-up. Put simply, there is in the United Kingdom at present no machinery for making a transition from a short war to a longer one. This may not be wholly typical but other allies are little better off, partly because resources have not been made available to buy the extra equipment and pay for the training needed to provide extra reserve formations, and partly from a reluctance to subscribe to conventional defense beyond a certain level.

It follows from what has been written above that the nuclear threshold could be uncomfortably low. This is understood in Europe, indeed it is self-inflicted, as indicated by a general unwillingness to increase the stocks of warlike stores beyond or in some cases even up to 30-day levels. The fact that this results in an acute dilemma is also understood, even if it is only recently that something—not too much—is being done about it. It is West Germany that would face this dilemma most starkly: if operations reached the stage at which the conventional defense was in danger of being unable to hold, West Germany would face the alternative of risking becoming a nuclear battlefield or seeking a political settlement. The pressures on statesmen under such circumstances are self-evident, increased as they could be by the fact that important territory might have been lost and the forces be in no position to get it back. The choice of escalation would be no less momentous for the United States.

Then there is also the problem that it is not easy to see just how nuclear weapons could be used to stabilize the battle or gain a clear military advantage. Using theater nuclear weapons for war-fighting is likely to be quite unacceptable to Europeans because of the scale of destruction that would be involved. The initial use would instead have to be selective, in some way that would impose costs on an aggressor but offer the maximum possibility of remaining in control of escalation. Enhanced radiation/reduced blast (ER/RB) weapons could have some utility here, in that they are capable of being used to affect the conduct of an armored battle, but if the enemy were to retaliate with larger and dirtier ones (and he may have no others) the advantage of their continued use is not obvious. Despite their potential military usefulness (which may increase the credibility of deterrence) they do not in themselves solve the familiar problems of the initial use of any battlefield nuclear weapons.

In all that has been written above there is nothing new. It would be surprising if there were, since we have been looking at the problems for a decade or two. It is, however, necessary to record it as a preliminary to addressing the question of whether the conventional forces we now have are adequate to serve the purposes of deterring aggression, preventing political coercion, and repelling attack.

DETERRING AGGRESSION

In history wars have usually been started because the side that did so thought it could make a profit, by achieving desired political ends or perhaps acquiring territory. Where conventional force is concerned, nations can still use force and make a profit; there have been ample examples in the present decade.

It is a commonplace, however, that nuclear weapons have changed the whole calculus of cost and benefit, so that the risks of destruction that would follow from war would now far outweigh the gains that might be made. It is hard to see what gains the Soviet Union might make by starting war in Europe that would not be outweighed by the possible destruction in the Soviet homeland. If war in Europe is thought by the Soviet Union to involve the risk of nuclear escalation, it is hard to see the Soviets starting one. The Alliance strategy has therefore always been to emphasize the risk of nuclear escalation, dramatizing it by the presence of large numbers of nuclear weapons launchers and warheads in Europe.

How realistic and how credible such a strategy is at a time of strategic nuclear parity is however unknown, and indeed, unknowable. Probably Europe is now less well protected by the American nuclear guarantee than was the case when the United States had a large margin of strategic superiority. The link between the European battlefield and the US strategic nuclear force, for which theater nuclear weapons form the mechanism, does not seem so close as it once did, though Europe still draws much comfort from the presence of a large body of US troops in Europe who share Europe's vulnerability. Obviously there can be no absolute certainty of escalation to strategic weapons, nor was there ever; deterrence may well now lie heavily in theater nuclear weapons. But wherever the strength of nuclear deterrence may be thought to be, the Soviet Union cannot be certain that strategic weapons would not be used. For the Soviet Union, the risk remains and is a compelling one.

To make credible the nuclear element of deterrence, the political will to use the weapons must be apparent and the weapons must be usable, that is, survivable and capable of hitting their targets (which involves modernization from time to time). The role of the conventional forces, apart from meeting lower levels of risk more sensibly and credibly, is to provide such a defense that requires major attack to breach it; that gives time for nuclear decisions (and political negotiations); and that provides deterrence from the outset through the manning of forward defenses. On these three counts the present NATO forces on the ground in peacetime are probably sufficient in number and type, despite some marked weaknesses. Over a period their strength relative to Soviet forces has however been steadily eroded, to the point at which any continuance of this trend will call their deterrent capacity into question. Furthermore, it must be remarked that unless nuclear weapons were used very early in a conflict, the limited size of the conventional forces, even after reinforcement, does not promote confidence that they might be instrumental in bringing a negotiated end to a war on favorable terms, since their ability to hold ground is in doubt. But this is a problem of defense rather than just deterrence, which is discussed later in this paper.

PREVENTING POLITICAL COERCION

If war can be prevented, essentially by reliance on nuclear deterrence backed by conventional forces, is the defense strong enough to prevent Soviet political coercion?

It is a paradox that when the Soviet Union is militarily active and politically assertive—the conditions that might be thought appropriate for coercion—the NATO allies take note and take care. The Soviet Union has always been the Alliance's best recruiting officer. The more coercion there is the less are its chances of success—under present circumstances.

Latent military power could, however, have an effect if West Europe were to begin to lose confidence in its ability to provide, together with the United States, for its security. In such a case it would be difficult for the political process in Europe to go forward on the Western side from any strength and political disarray would almost certainly follow. It is not only the East-West military balance which is a factor here; a SALT agreement and the codification of strategic parity are also important to Europeans. They are intimately interested in the good management by the United States of the strategic relationship with the Soviet Union and if the United States handles this less than successfully, Europe and European political confidence are affected as well. As so often in Alliance affairs, the West-West dimension in security is as important as the East-West.

But to return to the question: are the forces strong enough to prevent Soviet political coercion? They are at the moment. They are sufficient to deal with low level threats or minor infiltration, and stronger pressures such as those on Berlin have been managed in the past, even though the military equation there is one-sided. The Soviet Union has occasionally succeeded with lesser, subtle pressures, such as that which resulted in NATO cancelling maneuvers near the border before the Soviet invasion of Czechoslovakia in 1968. And pressures on Turkey, such as those connected with the passage of the *Kiev* through the Straits, have been effective to a degree since Turkey has been in a mood to use them against the US Congress in retaliation for the arms embargo. Did Soviet pressure play any part in influencing allied decisions over the neutron bomb? It seems likely that it did.

NATO forces are, of course, not designed to prevent erosion of the Western interests in Africa, since this is not in the NATO area. There has in any case been no identity of view among allies as to what should be done there, and the absence of any attractive political or military options has not helped to form one. Forces could be made available if the will or wish were there (though by allies rather than the Alliance perhaps, with others merely acquiescing), but there are very few to spare for more than limited operations on land. For the moment Soviet coercion is being effective against allied interests because the Alliance is not organized to prevent it.

REPELLING ATTACK

To be able to repel attack is a much more demanding task than deterrence (which leans heavily on nuclear weapons), coupled as it is to that of conceding as little ground as possible. It requires conventional forces that have staying power and the ability to launch armored counterattack in strength. It requires also the ability to carry the battle into the enemy's own territory by sustained tactical air operations, possibly by limited ground operations under certain circumstances.

The forces now in place depend heavily on early reinforcement to be able to meet an attack on the scale that the Warsaw Pact is capable of launching; without this their numbers are simply not large enough to be able to carry out with confidence a cohesive defense continuously for anything more than a short time. Even if a Warsaw Pact advance were severely hampered by NATO air action, it is doubtful whether proper advantage could be taken of this by the ground forces until the arrival of substantial reinforcement formations enabled operational reserves to be created and used to influence the course of the battle.

Given that the forces in place are not strong enough to hold by themselves, the key to the defense is the number of reinforcing formations that can be made available and the speed with which they can get into action. It is hard to be optimistic about the ability of the standing forces and their likely numbers of early reinforcements to fight holding battles and maintain cohesion without giving up a good deal of ground. The mounting of anything more than limited, local counterattacks might depend heavily on the attrition of enemy attacking formations through air action, something which the current balance of tactical air power by no means guarantees. Negotiations for war termination as the alternative to a resort to theater nuclear weapons could find NATO in a weak position, both territorially and militarily.

The obvious problem is that unless the Warsaw Pact proves itself to lack cohesion through political differences between the Soviet Union and its East European allies, there are not enough NATO combat units for a defense in all national sectors in sufficient depth and strength that gives confidence of being able to slow down, halt, and then repel an attacking force that might number up to some 90 divisions. The need for forward defense is not militarily helpful—even if it is tenable—once battle is joined. The present level of defense is capable of imposing considerable costs and delay on an attacker, but unless some armored formations can be freed from purely defensive tasks and kept relatively fresh for counterattacking penetrating forces, the battle is likely to become one of attrition. Unfortunately the Warsaw Pact, with its greater immediate reserves of combat manpower, is better placed to absorb losses. There seems no escaping the need for a denser defense, one in greater depth, if a purely conventional battle is essentially to be relied upon. The chances of finding such a defense from active forces, even assuming that immediate reinforcements arrive at a battle before the enemy does, are not great, short of a major change in the international climate. The immediate way of doing so is through a speeding-up of present reinforcement plans, but a fuller and better use of reserves seems to offer the best way of making the defense materially stronger. The alternative is an early reliance on nuclear escalation, with all its political and military difficulties but with its deterrent value. This may indeed be what European allies prefer, but there is increasing awareness that an improvement in the conventional capacity is necessary to maintain deterrence successfully, and to provide the conditions for war termination by negotiation on advantageous or acceptable terms. But just as there are political and military difficulties attaching to any decision to have recourse to nuclear weapons, so there are in providing greater resources for conventional defense. And any future Soviet force improvements will have to be matched as well.

THE IMPLICATIONS OF NUCLEAR BALANCES

The argument set out above is, then, that we have the forces for deterrence now and for resisting coercion in the NATO area, but that augmentation of the defense is needed to be confident of repelling an attack conventionally.

If this is correct, then it is apparent that as far as deterrence is concerned the nuclear balances, strategic and tactical, play an important, indeed vital part. If NATO were to be in a perceptibly inferior nuclear position the credibility and the attractions of nuclear escalation would be dubious, to say the least. The United States could be expected to be less prepared to take risks and deterrence would be sharply eroded. The confidence of the allies in the whole Alliance posture would be at risk.

There would be not much that could be done conventionally about this, except insofar as new conventional weapons might in the future be able to engage some targets against which nuclear weapons are now deployed. An improvement in the military balance might desirably be sought this way in any case, perhaps through conventionally armed cruise missiles, though the problems of cost and arms control considerations militate against this particular solution. If new technology could increase conventional strength, the nuclear threshold could be raised, but deterrence would surely evaporate if there were not to be a perceived context of strategic and tactical nuclear balance as well. NATO strategy has evolved from that based on American nuclear monopoly through a posture of strategic and theater nuclear advantage. Anything less than nuclear parity would put severe strains on allied willingness to rely on the United States for their security, set as this would almost certainly be against a background of Warsaw Pact conventional superiority. While the Alliance has both the financial and manpower resources to achieve conventional superiority if it chose to apply them to that end, the confidence to do this in a time of clear nuclear inferiority must be in doubt.

ARMS CONTROL

A successful outcome to MBFR negotiations—that is, one that corrects the present force disparities in central Europe and markedly reduces the Soviet capacity for attack with little warning—would obviously alter matters considerably, which is what we want. It is, however, hard to see the Soviet Union giving up its present relative advantage except for some other, which may not move things very far forward. To trade tactical nuclear weapons for tanks, as in the Option 3 proposal, seems to open the way for a Soviet *droit de regard* over NATO nuclear modernization. It would presumably not be easy to get the Soviet Union to agree to NATO getting tanks in exchange for giving up one kind of launcher yet have freedom to replace it with a newer type such as a cruise missile. If agreement on Associated Measures or the like could be reached, giving either side greater confidence that there would be more warning, force postures could be altered. The relative proportions of standing forces and reinforcements might be adjusted, for example, and more reliance placed on reserves. Agreements to ban or control new weapon systems might serve subsidiary aims of arms control, such as saving costs, but would do little for the most important aim of enhancing stability. Nothing short of asymmetrical reductions are likely to do that, and these seem inherently improbable on any scale. MBFR could help but it is hard to be a believer in it in the absence of some more promising political environment than the present one. NATO is hardly bargaining from strength.

MAINTAINING AND ENHANCING CREDIBILITY

If MBFR is not promising, then what else might be done to maintain or improve deterrence and defense? The Long Term Defense Program (LTDP) recently agreed upon will certainly attend to a number of weaknesses, such as in the field of antiarmor and antiair defense, and could radically improve the vitally important reinforcement timings. New technology could help to restore the edge that NATO tactical air forces once had, giving the ability to fight the tactical battle more offensively than might be possible now. It could improve the firepower of the forces as a whole.

The military balance with the Warsaw Pact could therefore be substantially improved—if the program is sustained over the years. The erosion of deterrence would be halted

and credibility increased. The ability to repel attack, somewhat pessimistically assessed above, could be much improved. If it really were decided to place increased reliance on the conventional element, the levels of stocks of warlike stores, notably missiles and ammunition, would have to be raised markedly, as would the staying power of the ground and air forces.

An increase in strength will undoubtedly follow from the restructuring of formations so as to make the best use of new weapon systems, and it would be short-sighted not to do this. It is probably not worth losing much sleep over exactly what form restructuring takes. Each national contingent will adapt to its own needs and there is no reason why interoperability should suffer.

The LTDP measures and such things as restructuring will strengthen the defense as presently organized; but a significant increment to defense and staying power could also come from steps designed to increase the number of formations available. There is little scope for doing this to any degree by increasing peacetime, active in-place forces. The solution lies in speedier reinforcement by active ground and air units from outside Europe or by the creation of more units or formations from reserves.

There is an obvious limit to reinforcement by active units (quite apart from any MBFR constraints that may be agreed upon in the future), since there are not all that many to draw upon. The chief reservoir is the United States; but while steps are now being taken to increase the number of divisions that could reach the theater in the first 10 days, the problem of providing stockpiled equipment for them is no light matter. The use of Marines on the northern flank could undoubtedly improve the reinforcement capacity there considerably.

For the European allies it is reserve forces that must be used for any significant strengthening of the defense (though France has additionally a number of uncommitted active divisions that may be made available, dependent upon circumstances). Reserves are the product of the throughput of conscript service, traditional in Europe, or, as in the case of the United Kingdom (and Canada), of volunteer systems with a reserve liability or of civilian volunteers doing part-time service (such as in the Territorial and Army Volunteer Reserve—TAVR—in Britain). Both types of reserve suffer from lack of training, either because, in the case of the ex-active army reservist, his training has faded, or in such organizations as the TAVR, because the peacetime duty periods are insufficient.

Reserve units and formations can therefore never be as good as full-time regular formations, and this fact must be allowed for if they are to be incorporated in the defense. This can be done broadly in two ways: by mixing men with regulars, or by giving them a less demanding role.

The first method is already widely in use in many allied armies but has many variations. Individuals can be used to strengthen regular units that are kept normally below wartime establishment strength. A reserve platoon can be added to a regular company; a reserve company to a regular battalion; or a reserve battalion to a regular brigade. In each case some cross-posting of regulars and reservists is advisable, such as having all reserve companies contain some regular officers and NCO's. All reserve formations and units should have a cadre of full-time regulars, the larger the better. The stronger the cadre is, the stronger is the unit likely to prove in the early stages of action. (Over a longer period a reserve unit can prove the equal of an active one, but the sort of war for which we must prepare in Europe is unlikely to allow such time for training on

the job.) Cadres will normally be responsible for training reserve units or train with them periodically.

This first method is and can be used for augmenting the strength of regular units or adding units to regular formations. Parent formations can be responsible for holding the equipment for reservists in peacetime, for which they will normally need some extra manpower. This, and the manpower used for cadres, would be extra to present scales, in return for which the number of units and formations can be markedly increased. There is, of course, an equipment cost too, a little lower than that for active units of similar size since not so much use is made of the equipment in peacetime. If the dilution of active formations with reserve platoons, companies, or battalions is not too great, they can take their place in main-line tasks of almost any sort. While this is already the case in many national contingents now, there is still scope for further increase.

The second method, of giving reservists a less demanding role, could promise greater dividends. Here reservists form units and formations, with regular cadres as large as can be found, but are trained only for certain limited combat tasks, such as light antitank or light antiair defense or light infantry work. They could, as is done in the German Territorial Army now, take over a wide variety of defensive functions in the rear areas, but with suitable training and only light weapons and vehicles could man forward defenses and defense in depth where the nature of the terrain favors defense. They could free active formations for more demanding counterattack roles. Reserve units in front-line areas should be commanded by a regular formation headquarters, both to improve their operational performance and to ensure coordination with active forces.

There is probably no need to expand further on the concept here, since it is a well-known one.* Clearly there are substantial costs involved: for training reservists, for regular cadres, and for equipment; but these are materially lower than would be required for active formations—if these were to be considered. Reserve formations must be immediately available, furthermore, or there is no point in having them, so their mobilization and movement must be very speedy indeed. Continental European countries are obviously well-placed to operate such forces. Reservists can be drawn equally well from ex-conscripts with a call-up liability or from volunteers.

Where such formations could be deployed on frontline tasks is largely a matter of terrain. There are extensive hilly and wooded areas in almost all national sectors, and a mass of minor roads and routes that light infantry and sappers could block effectively, at least for a time. German units are a natural choice because of the speed with which they could deploy, their ease of training in operational areas, and possible familiarity with the terrain. They would in fact be no more than an extension of the present Territorial Army, with wider operational roles and sectors.

It will be objected that such light formations are no match for Soviet active army formations (though many Soviet divisions in less important sectors are themselves going to contain large numbers of reservists). This is true. The key to their value is the nature of the task they are given. In thickly wooded country, armed with suitable missiles and trained in pioneer and light engineer demolitions and obstacles, they could impose considerable delay and tie down Soviet forces. They would be used in sectors of secondary importance, but by freeing other heavier troops into general reserve could help slow

*I have written on this elsewhere as have others, notably Steven L. Canby.

down the whole momentum of attack by giving commanders forces with which to strike at the flanks of penetrating armored columns.

There are a host of problems, of course, and there would be competition for resources with the measures called for under the LTDP. The LTDP will clearly take priority since it is the considered view of the Alliance that this is where the money should go. There is no disagreement with this, but the observation is made that to have confidence in the ability to absorb and repel attack with conventional means—albeit backed by the threat of nuclear escalation—more men are needed on the ground. If this form of defense is what nations want, the men are there in the form of reservists, if use is made of them properly. Steps to strengthen the existing level of defense are sorely needed but they may not be enough.

Maritime Presence, Projection and the Constraints of Parity

Dov. S. Zakheim

INTRODUCTION

Only 7 years ago a knowledgeable British observer of maritime affairs wrote that the US Navy, despite impending block obsolescence, nevertheless was:

The only navy with the sheer number of ships, with enough aircraft carriers, ocean-going surface warships, amphibious craft and supply vessels, to undertake every class of operation, in any part of the oceans *and for as much of the future as yet can be foreseen*.¹

Today, contrary to the tenor of this roseate prediction, and with both the worst phases of its block obsolescence problems behind it and a large backlog of warships under construction, the Navy faces its future with some trepidation. The Secretary of the Navy has told the Congress that "if the relative trends of the past ten years are prologue to the next ten, the balance may well tip to the Soviets."² The Chief of Naval Operations has voiced similar sentiments, pointing out that the United States no longer is the world's dominant naval power.³

Some would argue that the Navy paints too gloomy a picture of its own decline, or of Soviet naval capabilities relative to our own. Nevertheless, there is widespread agreement that the relative balance between the two powers appears to have shifted away from US maritime preponderance, and that the Soviets have exploited that apparent shift in a variety of operations since the early 1970's. Indeed, for the first time, there is serious discussion not only of a worldwide Soviet naval presence, but of an incipient projection capability to match that presence. And it is in terms of presence and projection capability that more and more arguments for increasing US naval capabilities are being couched.

One such argument begins with the proposition that the United States traditionally has indicated its concern for its commitments, and for worldwide stability, through the medium of forward maritime deployments in the Pacific Ocean and Mediterranean Sea. The recent decline in carrier force levels, coupled with the growing importance of sea lanes from the Persian Gulf to Europe and the United States, has—the argument continues—considerably strained the Navy's ability to maintain its current deployment posture while increasing the tempo of its presence in the Indian Ocean. In this view, US

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deployments must constitute more than mere tokens of US power: their strength must be measured "by the ability to apply appropriate force about the point at issue."⁴ Given growing Soviet strength, and the Soviets' increasing ability to inject their presence worldwide, the appropriate level of US force for crisis control is thought to be no lower than that of the carrier task group, the most powerful aggregation of US force. Thus, the argument concludes, forward carrier deployments, traditionally the post-World War II expression of continued US commitment to overseas interests and allies outside Central Europe, must be maintained at least in present form and with current levels of support.⁵

Several premises underlie the foregoing set of arguments. First, it assumes that past American notions of, and criteria for, effective "presence"—the term most commonly used to signify the peacetime mission that forward deployed carriers, as well as Marine units, carry out—are likely to apply in the foreseeable future. Second, it assumes that Soviet notions of presence are similar to our own. Finally, it assumes that the linkage between presence and "projection" is direct as well as constant: forces representing a nation's presence embody a significant portion of its projection capability and will continue to do so.

This paper will examine each of those premises in turn, and will argue against all three. It will attempt to demonstrate that maritime presence need not be defined in naval terms only, as it has in the past, and that the Soviets, Admiral Gorshkov notwithstanding, certainly have not defined it that way. It then will seek to illustrate that non-naval units are likely to grow in importance as rapid response projection units, even if their value as tokens of "presence" does not grow commensurately. Lastly, this paper will examine the implications for the overall military balance of the evolving balance of US/Soviet presence and projection capabilities and of the growing potential for superpower confrontation outside Europe.

PRESENCE AND PROJECTION: DIFFERENT MEANINGS FOR THE SUPERPOWERS

Naval Presence: The Concept

Naval presence is not a simple concept. It comprises two distinct naval practices or functions—"flag-waving" or goodwill port calls, and crisis control; two means of carrying out each, permanent forward deployments, or rapid response from stations near home; and two general levels of force that might be employed, low, or "trip wire" levels, and high levels representing major combat power. These relationships can be illustrated in matrix form (see Figure 1).

Naval presence as depicted in the matrix is primarily a political activity. It can be a symbol of a nation's interest in overseas developments; an expression of the sincerity of alliance commitments; a deterrent to potential adversaries; and perhaps a restraining influence upon others contemplating a military adventure of their own.⁶

Underlying the matrix, however, is the linkage between presence and force projection. Naval forces traditionally have been used for the presence mission because their independence of land bases permits them to avoid infringing on the sovereignty of other states. Nevertheless, presence embodies the threat that some level of force might be used against other states. The ability to use that force often can render presence a sufficient condition for achieving political ends.

The linkage between presence and projection tends to be more pronounced when more powerful force levels are employed; it also becomes a linkage expressed primarily in naval terms.

Figure 1

NAVAL PRESENCE: A MATRIX OF MEANS, FUNCTION, AND LEVELS

MEANS	FUNCTION		LEVELS
	Flag Waving	Crisis Control	
Forward Deployments	Goodwill visits in area—e.g. US 6th Fleet	Major response to local crisis—e.g. Yom Kippur War 1973	High
	Goodwill visits—e.g., of Middle East Force	Nominal response to local crisis—e.g. Korea 1976	Low
Response from Home Waters	Joint exercises out of area—e.g. UNITAS exercises	Major response to crises—e.g. Cuba 1962	High
	Goodwill visits out of area—e.g. West African port calls	Nominal, trip-wire response to crises—e.g. British gunboat diplomacy	Low

The matrix also indicates, however, that lower levels of force deployed in forward areas, as well as both more and less powerful forces stationed near home, likewise can be associated with both functions associated with naval presence. And, as is the case with high levels of force deployed in forward stations, these other expressions of presence are linked to force projection, albeit in a less immediate, or, with respect to low level presence, a more muted fashion. For example, the dispatch of high levels of force to a remote region during a crisis not only expresses a nation's interest in that crisis, but also positions forces for a possible intervention as well. Low force levels, often associated with the "flag waving" aspect of presence, nevertheless can perform a crisis control function as well; they too embody a link between presence and projection. These forces represent a nation's potential power; they can seek to achieve certain policy goals with the implied threat that that power might be used. Thus, during the 19th and early 20th centuries, the mere arrival of a British gunboat in an African or Asian port was a sufficient signal of that country's intent and symbol of its power, and often prompted whatever response Britain desired.⁷

In contrast, since World War II the United States in particular has tended to employ powerful naval forces when conducting most presence missions. Furthermore, the United States has permanently deployed these forces, notably carrier and Marine units, overseas. Thus, US practice can best be identified with the top row of the matrix, that is, with both the flag waving and crisis control functions, as carried out by high levels of force deployed overseas. It is in that context that US planners have assessed the political and military benefits of presence. The United States apparently has acted upon the logic that the most explicit linkage between presence and projection, which only powerful forward naval deployments embody, provides maximum political returns, and that the permanent

overseas nature of those deployments also ensures that naval forces probably will arrive more quickly at the actual scene of a crisis than if they had to transit from stations nearer home.

Nevertheless, the effectiveness of high force level overseas naval deployments, particularly with respect to the crisis control mission for which it appears particularly suited, has become extremely difficult to ascertain. The current relative balance of power, both within and outside the naval sphere, and the complex of countervailing political, diplomatic, economic, and military actions that leading powers can undertake in crisis, reduce naval presence to but one of many pressures that a state may apply to another. As such, it may be offset by counterpressures from another state that may or may not include a competing naval presence of its own. Such counterpressures have emanated particularly from the Soviet Union, which has vastly improved its naval capabilities and has employed them for political ends in a manner that has contrasted sharply with US practice; their efforts fall somewhere between the subtlety of British gunboat diplomacy and the power of US carrier diplomacy. These developments are highly significant for the presence mission as practiced by the United States since the end of World War II.

The United States: Implied Projection Capability

The United States has undertaken overseas presence missions at various levels of force since the early 19th century. The political/military importance of its overseas deployments has been greatest since World War II, when carrier forces in the Mediterranean as well as the Pacific not only were meant to promote stability in both regions but also posed a strategic nuclear threat to the Soviet Union.

The nuclear element in US carrier deployments was one aspect of a tendency toward overwhelming force that has characterized US presence activities in the postwar era. Overwhelming force likewise characterized postwar US employment of conventional military units for presence purposes outside Central Europe. This force represented the US ability to project its power over long distances; for the United States, naval presence was the immediate and direct antecedent of force projection.

Perhaps the earliest example of what was to become essential to later US presence policies was the dispatch of the battleship *Missouri* to Turkey in 1946 in response to Soviet pressure on the Turks.⁸ Its message was one of the considerable power that the United States could project, even at great distances, when interests that it deemed important to its well-being were at stake. A lesser ship would not have conveyed the same message and, in the event, might not have helped to bring about the same results.⁹

United States maritime forward deployments since the late 1940's have sought to ensure that both regional powers and the Soviet Union remember the message of the *Missouri*. Furthermore, they have emphasized the rapidity with which the United States could project its power. In the Western Pacific, where the United States scored its greatest maritime victories in World War II, three (since 1975, two) carrier task groups and two Marine amphibious units have remained deployed at all times. In the Mediterranean, two carrier task groups and one Marine amphibious unit have been on permanent station, a direct legacy of the *Missouri* incident and of the Truman Doctrine, which followed shortly thereafter.¹⁰ In the Caribbean, both Marine and carrier groups have operated on an intermittent basis during stable peacetime periods.

Until the late 1960's, the force level of these deployments (with the exception of a small Middle East Force based in the Persian Gulf where Britain played the lead role in looking after Western interests) was far higher than that which any rival power might marshal in opposition. In the late 1940's, only the British had a navy that could match even faintly the firepower of the forward deployed units.¹¹ The Soviet Navy was at best a coastal defense/riverine operation. The navies of most non-European states were of little consequence. The US Navy's forces had no need to fight to control the seas; they did so by default.

With sea control assured, the Navy's forward deployed forces could be devoted almost in their entirety to projection of power ashore. To be sure, both the Korean and Vietnam wars demanded far greater force than the forward deployed units could provide. But in lesser cases, particularly crises involving non-European states, the level of force that the forward deployed units embodied appeared sufficient, in and of itself, to determine the outcome of events ashore, should those units have been committed to combat. The frequent augmentation of US force, by means of surged maritime deployments, only added further assurance to what was probably a foregone military conclusion in America's favor. Indeed, the mere show of force often was sufficient to secure US ends.

For 20 years after World War II, unchallenged US naval power, supported by a still formidable Royal Navy, assured that Western presence on the coasts of the Third World, particularly the Mediterranean, the Persian Gulf, and East Asia meant not only a "flag waving" presence, but the power to project force more quickly from sea-based platforms than Third World states could amass on land. The Soviet Navy continued to be a negligible factor during this period.

Challenges to the US Concept of Presence. By the late 1960's, however, trends in Soviet and non-European naval development began to indicate that the operations which forward deployments facilitated—the very rapid dispatch of naval units to crisis areas—were likely to be more difficult in the future. The Soviets had undertaken a major overhaul of their naval programs well before the Cuban missile crisis.¹² As the endurance and antiship capability of Soviet surface ships and submarines improved in the mid-1960's, Soviet maritime anticarrier defenses moved farther from their homeland, to the point of challenging carriers on the high seas. That challenge was implicitly posed in 1967, when the Soviet Mediterranean squadron began its permanent patrol as a counterpresence in what had been considered an American lake.

The sinking of the Israeli destroyer *Eilat* by Styx antiship missiles underlined the nature of the threat that resided in the Soviet fleet, notably its submarines and surface ships. Indeed, for the first time it also indicated that regional powers could at least minimally threaten US maritime force with systems that were far smaller and cheaper than major warships, but no less a deadly counter to them.¹³

The implications of potential threats to US maritime forces were extremely serious for the way in which the United States conducted its presence operations. The effectiveness of that presence implicitly was predicated upon the fact that maritime forces were safe havens for the projection of force ashore. The dispatch of a carrier group allowed the US command authority a high degree of flexibility, while it posed frightening prospects for a potentially hostile regional power. The carrier's force might, or might not, be applied ashore; but apart from modifying its internal behavior, the regional power could do little to deter the use of that force. Most of the military cards were in US hands,

and mere presence often appeared to have substituted for the actual use of carrier (or Marine) firepower. The growth of Soviet naval capability and the impact of technology on antiship systems of even small navies ended the carrier's status as a safe haven. An element of uncertainty entered US calculations, and placed some cards in the hands of regional powers. United States maritime forces were still likely to get the upper hand in battle, but they would have to fight for that upper hand, for their safety was no longer assured.¹⁴ A regional power, calling in Soviet naval power and perhaps possessing antiship missiles of its own, could add to the price of US maritime operations. United States decisionmakers would have to calculate the risk attached to presence in addition to the risk associated with operations ashore. Presence no longer implied unadulterated projection capability; some force would have to be applied for self-defense.

For the first time, regional antagonists were in a position to assess whether the United States really was prepared to use force when it deployed maritime units to the scene of a crisis. Previously such an assessment was beside the point; the United States could not be stopped if it sought to intervene, hence, there was little reason to doubt that it would intervene.¹⁵ In the 1970's, however, if it were serious about employing force ashore, it would have to assemble task groups sufficient not only to conduct projection operations, but also to ensure the carrier's (or Marine unit's) safety at sea. The mere dispatch of units that did not provide for protection *and* projection would appear to signal more of a knee-jerk reaction to a crisis rather than a thought-out plan of attack. It would indicate merely US concern, not a readiness to fight. To be sure, a signal of concern might bring a crisis under control. But, as noted above, such a signal was but one of many that the object of that signal might receive from the United States as well as from the Soviets or other powers. If the US signal were ambiguous, as it would be if there were no certainty about US determination to fight, it might be wrongly interpreted, with unfavorable consequences for the United States.

An Early Example. This change in worldwide perceptions of US presence, and the facility with which US signals could be misinterpreted, if not ignored, manifested itself during the Indo-Pakistani war. The Indians possessed some antiship missiles, which they used to great effect against the Pakistani Navy. They would have been far less effective against US forces, but might have caused some damage. More importantly, a number of Soviet warships were in the vicinity of the conflict when Task Force 74 arrived. Were the United States actually prepared to intervene in that war, it would have sent two carrier task forces to the Indian Ocean. It thereby would have obtained virtually absolute assurance of nonstop carrier operations even if the Soviets chose to fire on US forces or in the unlikely event that an Indian Styx missile found its mark against a carrier. In fact, the United States deployed only the carrier *Enterprise* together with several escorts, and Marine amphibious ships to support "the evacuation of US citizens." India, quite rightly, acted on the presumption that the United States merely wished to show force and had no intention of using it. The Indian Navy ignored the US presence and proceeded with its operations.¹⁶ And the US Navy did nothing to offset Indian naval superiority vis-a-vis Pakistan.

The events of the 1973 Yom Kippur War further underscored the impact of growing Soviet and Third World naval capabilities upon the way the United States naval presence could exert political influence. October 1973 witnessed a stand-off between the Soviet Mediterranean squadron and the US Sixth Fleet. The Soviets demonstrated an ability to match US force augmentation with an augmentation of their own, and to mass anticarrier

units in numbers sufficient to challenge each of the carriers that the United States had deployed to the combat theater.¹⁷ United States presence thus no longer automatically implied the potential for unrestricted sea-based power projection. Restoration of this linkage between presence and projection appeared to call for a level of political determination that probably existed in 1973 in the face of the Soviet challenge, but that might not always be forthcoming from the National Command Authority.

Soviet Maritime Presence: Support for Projection

In contrast to long-standing US overseas deployments, both the permanent worldwide deployment of the Soviet fleet and the deployment of elements of that fleet at relatively high force levels are relatively new phenomena. Most attempts at evaluating the significance of these deployments and their underlying rationale have consequently focused on the pronouncements of Admiral of the Fleet Sergei Gorshkov, widely reputed to be the architect of current Soviet naval policy. Gorshkov has written—most recently in the *Sea Power of the State*—that the Soviet fleet adds to the flexibility of USSR involvement in Third World crises and what it would term “wars of liberation.” He has emphasized in particular the importance of naval striking power in the struggle for exploiting the “World Ocean.”

His tone seemingly reflects a mirror image of traditional US views of the efficacy of presence. Indeed, Gorshkov never tires of citing the historical examples of US forces, such as the Sixth Fleet. His books have led many analysts to assume that the Soviet Union seeks not only to neutralize American naval superiority in any maritime theater, but also to possess the capability to project power ashore in the American manner. Thus, it is assumed the Red Fleet links its “presence” and potential for projection in much the same manner as the United States often has done: getting its political ends without resorting to actual military means, but having military capability available on the scene if it actually is required.

In fact, the limitations upon this notion of presence are so obvious that the Soviets could not possibly view the mission in this manner. In the first place, they have no way of predicting American absence from the scene of a crisis. Indeed, if the United States were to follow recent Soviet practice, it would dispatch forces to a crisis area just because the Soviets have gone there.¹⁸ Once both powers were on the scene, the crisis would take on a different hue, as it did in 1973. The immediate risk-free benefits of presence would be shattered for the USSR, much as it was shattered for the United States in October 1973.

Furthermore, Third World naval capabilities pose a serious problem for Soviet naval forces. Indeed, because of their limited sea-based tactical air capability, Soviet units are more vulnerable to Third World naval missile forces than are US units.

Lastly, the nature of the Soviets' growing presence belies theories about that presence as derived from Soviet literature. The record since the 1950's is one of significantly greater presence without significantly greater projection capabilities and, in particular, without an increase in sustainability commensurate with the increase in overseas operations as measured in ship-days.

Soviet ships are noteworthy for the long periods they spend at foreign ports or anchorages. These days count as “overseas ship-days”¹⁹ but add little to Soviet operational experience. They reflect the Soviets continued inability to conduct the sort of underway

replenishment exercises that are a regular part of US Navy operations. They also reflect the limited ability of the Soviets to conduct sustained projection operations at sea. With limited reload capacities aboard ship, and relatively inferior resupply techniques at sea, the Soviets could hardly expect to project power against any but the lowest levels of opposition ashore. Even the addition of the Kiev aircraft carrier, while adding significantly to Soviet projection capabilities, does not answer the question of sustainability and resupply. Indeed, the combat nucleus and maximum payload of the Yak-36 aircraft are reported to be quite limited,²⁰ and there is a continuing absence of support aircraft that would be critical for most operations against even medium-level littoral powers. In addition, limited Soviet antisubmarine warfare (ASW) capabilities would make Kiev particularly vulnerable to enemy submarines, especially the quiet diesel submarines that a number of small coastal-oriented navies have acquired.

In a noncombat environment, the Red fleet can benefit from the Soviets' one great resupply resource advantage, the Red Merchant Marine. The merchant marine fleet would face extreme difficulty if it sought to perform its resupply function under fire, however. It has few defenses and its techniques are outmoded by Western naval standards.

Similar limitations inhibit the operations of the Soviet Naval Infantry. This force, with its support shipping, was designed to conduct short-range operations in Europe in support of the main body of ground forces. While the Naval Infantry can now be carried aboard larger, faster longer-range Alligator ships, it continues to lack an integral sustained supply capability and cannot be sure of protection and support from tactical aviation at distances remote from the Soviet Union.²¹ A large Western fleet—notably that of the United States—or even of the missile gunboats of many smaller states, could well disrupt and possibly abort any Soviet attempt at long-range amphibious operations.

Not all of these limitations upon Soviet sea-based projection capabilities are due to lagging technological capabilities. For example, the Soviets already possess dedicated underway replenishment ships, the Chilikin class, that can conduct sophisticated replenishment operations in a manner similar to those of the US Navy.²² Similarly, the Soviets have the capacity to expand their amphibious assault shipping force, and provide more ships with longer range and greater capacity, far more rapidly than has actually been the case. The fact that the Soviets have not done so, and have proceeded quite slowly with upgrading those elements of the fleet that are critical to sustainability, indicates that the fleet is geared far more to presence in the "flag waving" sense than to the crisis control-projection linkage that is most familiar to observers of US naval operations.

This is not to say that the Soviets cannot project their power abroad, or that they have not improved their projection capabilities significantly, or that their navy does not contribute to their projection efforts. But the history of Soviet operations since 1967, particularly in northeast and southwest Africa, indicates that maritime crisis control and projection are more multiservice, indeed multicountry, missions for the Soviet Union than they have been for the United States. To a greater extent than the US Navy, the Soviet Navy has teamed with various Soviet air forces in conducting crisis control operations. When actual projection has taken place, the navy has assumed a subordinate role in support of Soviet air force or non-Soviet ground force operations.

Thus, in 1970, it was Soviet-flown MiG-21J combat air patrols that appear to have been the primary cause of the cessation of Israeli deep penetration raids in Egypt;²³ the

presence of Soviet naval units in Alexandria served as no more than a symbol of the close ties between the two states. Similarly, in 1973, the Soviet fleet, in conjunction with the Merchant Marine, shared the resupply effort to Egypt with the Military Transport Command. Indeed, it was airlift that most critically supported the continuation of the war after its initial stages. The navy's role was primarily one of sea denial, or at least of neutralization of US forces, so as to ensure the continuation of the Soviet airlift and protect Soviet resupply units from Israeli air attacks.²⁴

More recently, both in Angola and the Horn of Africa, Soviet resupply efforts have been shared by both airlift and sealift units. The navy has escorted sealift resupply, and has served as a signal to foreign navies not to intervene. In effect, it has sought to deny and then control local waters.

To be sure, the Soviet Navy runs the risk of confrontation with Western or Third World navies even when pursuing a local sea control mission. The Soviets could counter some of the threats, however. Third World gunboats would have to contend not only with Soviet antiship missiles but also with Soviet VTOL (vertical take-off and landing) aircraft as well. Similarly, although Soviet forces could be vulnerable to attacks by a US carrier task force or land-based aircraft carrying antiship missiles, a Soviet threat to carrier forces could create a tactical stalemate that strategically would favor the Soviets. Thus, since Soviet forces are not likely to do the actual fighting (though airborne troops could be used in combat operations), it is the United States that is faced with the choice of risking carrier units, indeed a worldwide conflict, to shoot at Soviet forces in order, hopefully, to improve the chances of some ally against Soviet-backed interventionist forces, such as the Cubans. The United States has not made that choice in the mid-1970's.

By limiting their ambitions for sea-based power projection, and turning to multiple modes of intervention, the Soviets have thus pursued a policy of intervention that has avoided direct reprisals of any form from the Western powers, and that has minimized the threat which non-Western navies might pose to their own. Naval presence has been presence and nothing more, and it has proved to be an eminently successful tactic.

NEW DIMENSIONS OF THE US PRESENCE MISSION: ASSESSING THE US-SOVIET BALANCE OF PROJECTION FORCES

The growth of Soviet naval capabilities has increased the risk of major conflict that might attach to US naval crisis control operations, and has also increased the potential military costs associated with US naval projection that might result from such operations. At the same time, the post-Vietnam reluctance of US policymakers to engage in overseas military operations has led to worldwide perceptions of a loss of US determination to pursue important interests if the risk of military involvement, and the potential cost of that involvement, appeared to be high. Taken together, these factors have resulted in an apparent decline in the effectiveness of US naval presence as a tool of political/military policy. In contrast, the Soviet Navy has met with considerable success supporting interventions in Third World crises. Both developments raise serious questions about the usefulness of current American conceptions of presence. To be sure, Soviet successes have been a function of improving capabilities, and those capabilities render it unlikely that the United States will ever regain the naval dominance it enjoyed in the 1950's. Nevertheless, to the extent that the US conception of presence

does derive from an era whose conditions no longer apply, a reevaluation of that conception would perhaps be worthwhile. That reevaluation should go beyond the purely naval-oriented matrix outlined at the outset of this paper. It should draw upon assessments of the comparative strengths of both land- and sea-based projection forces, for, as the Soviets have demonstrated, naval forces are but one component of a successful multiple mode approach to presence and projection in the Third World.

The current US preoccupation with naval and particularly carrier presence has tended to overshadow the potential for its own land-based forces to contribute to the presence mission, and especially to play a significant role in dealing with Third World crises. The United States holds a qualitative and quantitative edge over the Soviets not only in terms of carrier firepower and Marine force levels, but also with respect to land-based rapid reaction units. These units include Army airborne and airmobile divisions, elements of the tactical air force and, critical for rapid crisis response, airlift and logistics resources to support combat force deployments.

It is well known that US Marine forces far outnumber their Soviet counterparts, the Naval Infantry. They carry with them far more support when they are deployed aboard amphibious shipping. And they benefit from integral tactical air firepower, which the Soviet Naval Infantry continues to lack.²⁵

Perhaps less well known are the advantages which US rapid response airborne units possess relative to the Soviet airborne divisions. The two key projection elements of the 18th Airborne Corps, the 82d Airborne Division, and the 101st Air Assault Division, total about 35 percent more combat and support personnel than the seven 7,000-man Soviet airborne divisions.²⁶ Indeed, even in terms of combat personnel alone, the two US divisions probably approach the combined total of their seven Soviet counterparts, despite the far higher ratio of support to combat personnel in the US divisional structure.

Most critically, US airlift resources can transport more US ground troops, more quickly, to any part of the world outside Europe than the Soviet airlift force can transport Soviet troops. The Soviet fleet is severely constrained both by volume and range limitations. Its largest aircraft, 30 AN-22's and their current replacement, the IL-76, are not refuelable. As a result, it only rapidly lifts the assault elements of something over two airborne divisions anywhere outside of Europe.²⁷

The US airlift fleet, on the other hand, comprises aircraft with significantly fewer volume, tonnage, and range limitations. The largest US airlift plane, the C-5, carries twice the volume of its Soviet counterpart, the AN-22, and exceeds its range by 600 nautical miles. The 70 US C-5's can be refueled (as the 234 C-141's will be upon completion of the current airlift enhancement program). The US force, in conjunction with the KC-135 tanker force, could support the deployment of the *entire* 82d Airborne and 101st Air Assault Divisions, *with* initial support increments, to the Persian Gulf in about 3 weeks, although this is the region that is logistically most remote from the United States. This deployment could be achieved even if most foreign bases now available to the United States could not be relied upon, and if overflight rights over countries friendly to the United States were seriously restricted.

The key to US airlift and, indeed, tanker capabilities is, in fact, the network of overseas bases outside the continental United States that is directly under US control.²⁸ This network is unmatched by that of any other power, and certainly not by the Soviet Union,

whose only "bases" beyond Soviet borders not dependent upon the whims of a host country are open ocean anchorages for the fleet. The US base network not only enhances airlift capabilities but also supports the Air Force capability to deploy long-range fighters such as the F-111 to even the most remote Indian Ocean/Persian Gulf/East African regions. Indeed, with Clark Air Force Base available for the foreseeable future, shorter-range aircraft might also make the transit, while the strain upon airlift forces would be reduced, and the speed of deployment somewhat enhanced.²⁹ Without similar bases the Soviets cannot hope to benefit quickly from their tactical aircraft, other than from their long-range Naval Aviation bombers, whose appropriateness for Third World conflicts and crises is far from certain.³⁰

Thus, whereas absolute limitations upon Soviet airlift capacity are compounded by uncertainties about land-based support, the US advantage is buttressed by its worldwide logistics network. In fact, the Soviet threat, both land- and sea-based, is most imposing near the USSR, and recedes with distance from its borders.³¹ The long distance Soviet effort therefore is significantly enhanced by the use of surrogates, the integration of surrogate operations with its own airlift and naval capabilities, and, critically, the benign neglect of the United States.

A COMBINED ARMS APPROACH TO PRESENCE: MASKING THE NATIONAL WILL

The United States continues to require effective military instruments for crisis control. The use of low value naval forces to implement gunboat diplomacy (in the British sense) is not a credible policy as long as doubts persist about US political determination to face the consequences of military involvement in a crisis. On the opposite end of the naval force spectrum, aircraft carriers remain effective signals of US intent primarily in situations where prior commitments or involvements virtually ensure that the United States would play an active role in controlling a particular crisis, even to the point of engaging in hostilities if the situation demanded them.³²

Not all crises will involve a history of prior US commitments to one or more regional actors, however. Where US political determination is not obvious, carriers likewise may not be the most adequate means of expressing US concern for controlling a regional crisis. To be truly effective, systems that the United States employs to signal its concern about a crisis should be those which at least appear capable of being used in that crisis. Thus, even if there is no intention that they be used, that intention could not be quickly perceived by other participants. Several systems currently numbered among the projection forces, both naval and land-based, might fulfill this message-giving function more adequately than carriers in a variety of situations where US concern is deep, but not deep enough to risk a wider war.

Amphibious assault ships with a tactical air capability, LHA's and LPH's, are prime short-term candidates for crisis control aspects of the presence mission, because they require no major redesign effort and because they are not as powerful or as valuable as carriers. The LHA's or LPH's might more adequately signal both US concern and a willingness to fight. Their involvement in a battle, even with the Soviets, would be less likely to lead to worldwide conflict. A hasty negotiation would be a more probable result of such a battle. Indeed, the cost to the Soviets of a naval exchange would be higher than to the United States. While the United States would not risk the loss of a carrier, only

that of a lesser value unit, the Soviets could well lose a key anticarrier group to the V/STOL aircraft and antiship systems aboard the LHA/LPH and its escorts. In these circumstances, it may appear to local powers that the United States would be more willing to fight—either them or the Soviets—and they would have to adjust their policies accordingly.

The use of nonaircraft carrier deployments would clearly prevent strains in the carrier force's forward deployment posture. Noncarrier air capable forces need not be deployed in fixed locations. They could deploy for longer periods to those areas where carriers deploy only on an intermittent basis—the Indian Ocean, the South Atlantic—making useful "flag showing" port calls in noncrisis conditions. Such a posture could permit the large carriers to concentrate on their primary fixed deployments.

It may, however, be more useful to adopt flexible deployments for the larger carriers as well. As one observer has commented, fixed forward deployments "can invite a range of trouble, as well as be vehicles of opportunity."³³ Fixed carrier deployments in potentially volatile Third World areas almost ensure the continuation of the current pattern of "musclebound" responses to crises. A more flexibly deployed force would tend to avoid this quandary, while preserving the carriers' ability to reinforce lesser ships if a decision is made to intervene militarily in a crisis as opposed merely to emphasizing US concern.

The role of naval forces—including carriers—can take on a wider aspect, however. Coupled with a more imaginative use of airlift resources and base facilities, naval presence could become but one element of a multifaceted US presence and crisis response mechanism. Forward deployed carrier forces could be strategically relocated in a crisis to allow for armed escort of airlifted units to a remote locale.³⁴ They could also be placed under the flight paths of Soviet airlift aircraft, thereby threatening the integrity of the resupply effort.³⁵ Indeed, not every crisis will take place near enough water to permit carrier-based forces to play a meaningful role as anything other than airlift support (or anti-airlift) units. For example, it was the threat of a large military airlift of ground force equipment, rather than carrier-based force, that contributed to the successful resolution of the 1961-1963 Congo crisis.³⁶ Similarly, airlifted, rather than sea-based force, proved to be the more appropriate US military response to the recent invasion of Zaire's Shaba province. It is unlikely that threats of carrier-based attack would in any event have appeared credible to anti-Mobutu invaders. Shaba is located about 900 miles from either African coast; in other words, it is beyond the unrefueled radius of all carrier-based aircraft. Even with refueling, these aircraft would only have achieved sortie rates well below their optimum capability.

Airlifted units have tremendous intrinsic value even where there is direct naval access to a crisis theater. Light infantry can arrive at any remote location in greater force more quickly than Marines can. For example, a full airborne division, with its initial support increment, could arrive in the Persian Gulf in less than half the time required to deploy a Marine division there.³⁷ Traditionally, these units have not been looked upon as possessing a capability to influence events in a crisis until their actual arrival. Naval forces have been viewed as flexible instruments for crisis control because of their ability to operate independently of land-based facilities, without infringing on the sovereignty of other states.³⁸ The use of US overseas base facilities does, however, permit the implementation of a maritime-based "airborne presence." For example, if the United States were to deploy part of its airborne forces to Diego Garcia during a crisis either in

the Persian Gulf or in Africa, it would add to its other political/military signals of concern about that crisis, without actually committing forces to the combat zone. Indeed, the dispatch of airborne units to the Chagos Archipelago could, with sufficient available lift, permit forces of brigade size to arrive in the Gulf or Africa within 24 hours of the order to deploy.³⁹

The possibilities for land-based contributions to maritime presence do not end with ground forces. Tactical air forces likewise could be shifted from their normal stations to signal United States concern about a crisis without their being actually committed to the combat zone. Thus, long-range fighter aircraft, notably F-111's, could be deployed to Diego Garcia, whence they could fly combat missions in the Persian Gulf or the East African coast. To be sure, it might be argued that, as with ground forces, as long as they did not arrive in theater their presence would not be as compelling as that of a ship patrolling relatively near a coastline. There is, however, widespread appreciation of the speed with which tactical air and airlifted forces can relocate. That appreciation could be reinforced by actual deployments to bases nearer the combat zone. It is, therefore, difficult to see why states would have any less concern about forces that, even at 1,000 miles, would be a mere few hours away, than about ships that, after all, would still be stationed beyond the horizon, and with extended territorial limits, at least 200 miles away.

Coupled with the dispatch of naval forces, possibly to support Marine landings, possibly merely to provide some escort for airlifted ground units that may or may not be US forces, the message of US determination that either airlifted troops or tactical air would convey would be clear. Nevertheless, the attendant risks of worldwide escalation would be lower than if the first US reaction was to send a carrier to the crisis zone.

IMPLICATIONS OF A COMBINED ARMS MARITIME PRESENCE STRATEGY

Effects on US Naval Force Programs

A maritime strategy that emphasized the synergistic power of US combined arms would probably not call for the cutback of current naval programs, but might point toward future programs somewhat at variance with those currently prominent in formal Navy and OSD (Office of the Secretary of Defense) presentations.

A modified presence program could tolerate the forward deployment of ships other than carriers: initially LHA's and LPH's, perhaps later a VSS. It therefore would demand some additional use of V/STOL technology. Fixed-wing tactical aviation would have to deploy aboard an air-capable ship that was sent on a crisis control or even flag waving mission if the US show of force were to appear at all credible. A decision to procure AV-8B's, rather than the less capable AV-8A for the naval presence mission, would, in part, depend on the degree to which planners wished to endow an initial crisis response ship with enhanced warfighting capability. An AV-8B squadron would present a greater threat to Soviet anticarrier units (though the primary threat to those units could well be Harpoon-armed US submarines), as well as a more flexible capability for involvement in an intervention ashore.

V/STOL-capable ships need not necessarily replace elements of the current carrier force. Carriers would still be required to reinforce these ships in the event of a US decision to intervene militarily in the Third World. As noted above, they would also be needed for other aspects of the presence mission: support for amphibious assaults,

ensuring free air corridors for transmitting airlift units, as well as threatening hostile airlift units. If the United States intervened in a Third World crisis, carriers would be useful to support the US operation. In the event that the United States were prepared to risk a showdown with Soviet forces in a Third World scenario, carriers would be indispensable for ensuring that the United States would emerge the victor. In any event, determination of total carrier force levels calls for consideration of the carrier role in a worldwide NATO/Warsaw Pact conflict as well as in lesser hostilities.

A combined arms US presence strategy would probably also call for additional training for Air Force units that could be involved in a maritime, or maritime-related conflict. These forces could quickly be deployed at bases near the scene of a crisis, so as to target hostile units in preparation for a shootout at sea. Maritime warfare is currently a collateral Air Force mission; as such, it cannot be used as justification for Air Force budgetary requests. Yet if F-111's or B-52's are to be used as part of a maritime presence strategy, dedicated funds for their training are essential. Additionally, current reluctance to arm B-52's or F-111's with Harpoon should be reconsidered; these aircraft would provide a useful additional antiship threat to Soviet units in the event of confrontations as far as 1,500 miles from a US base—in other words, much of the Indian Ocean, and the Mediterranean as well.

It would appear that much of the current base infrastructure is, or soon will be, suitable to support some worldwide airlift and tactical air presence operations. In particular, Diego Garcia, the key to US Indian Ocean operations, is currently the scene of military construction operations that will facilitate tactical air, airlift, and refueling operations in the Indian Ocean.⁴⁰ It may be useful to provide permanent maintenance support for long-range aircraft such as F-111's or B-52's, as well as add to the island's aircraft-handling capability to ensure that operations could be flown out of the island on a sustained basis for extended time frames.⁴¹

Relationship to the Strategic US/USSR Balance

In recent years, the United States has appeared far more inhibited about confronting the Soviets than the Soviets have been about confronting the United States. Part of this inhibition is a residue of the Vietnam experience, part may be due to the implications of a showdown for a wider conflict and, ultimately, a nuclear war. Resort to a strategy that does not initially involve carriers, whose nuclear role has never been discounted by the Soviets, limits the possibilities that a confrontation would spread either to wider war or to nuclear war. The United States might then have fewer inhibitions about confronting the Soviets—possibly in the form of creating zones of no entry to Soviet ships.

Impact Upon the Conventional Maritime Balance

In Peacetime. The Soviets may find it more difficult to employ their fleet with impunity to exacerbate Third World crises. With a lower value presence force that would involve less costly losses, the United States may perhaps be more inclined to confront Soviet naval units more aggressively with a view to limiting the degree to which they could support sea and airlift operations at long distances from their homeland. Moving US or other ground troops near the crisis area, be they Marines, or as suggested, Army units, not only would signal the presence of a counter to surrogate (e.g., Cuban) troops, but also the potential for an additional land-based air threat to Soviet surface units. The

signal of US intent would be clear to Third World states as well as to the Soviets. In situations where the US willingness to use force remains uncertain, that uncertainty would not be easily transmitted to other states. Lastly, the use of carriers as follow-on forces would render them tactically less vulnerable to Soviet task groups which could not as easily target them as when they would be on relatively stationary deployments.

In Wartime. Smaller air-capable ships could play useful roles in the Indian Ocean/Persian Gulf areas, in particular. The United States could thereby maintain some naval capability in those regions even at the outset of a worldwide war, while carriers remained free for higher priority missions. There would be some strain on the blue-water Soviet anticarrier fleet,⁴² and the level of survivable US air-capable units, including carrier units, would probably be considerably higher than if only carriers were available to perform sea-based air missions.

In Conclusion

The importance of naval presence resided in the flexibility it provided decisionmakers for dealing with crises without immediately committing US forces to solving them by means of military operations. The decline of the carrier's effectiveness in carrying out this mission need not, however, signal the end of effective US efforts to employ military means for political ends.

This paper has argued that the carrier is not the only long-range flexible source of firepower available to the United States. Smaller air-capable ships, coupled with the timely transfer of ground force and tactical aviation units near to the scene of a crisis, could preserve the flexibility of decisionmakers by signalling US seriousness of purpose, threatening intervention, but remaining somewhat removed from the crisis theater. The Soviets may find it far harder to counter such forces, while Third World states would find it more difficult to assume that the show of force was no more than a US reflex action. Ultimately, US effectiveness will continue to depend on the political determination of its leaders, and the support of the American public. Nevertheless, if the United States were to end the Soviet's monopoly upon multimode presence operations by undertaking multimode operations of its own, the presence mission could once again be a meaningful tool for US crisis control, and may serve as an effective counter to recent Soviet/Cuban efforts to alter what they term "the world correlation of forces."

ENDNOTES

1. James Cable, *Gunboat Diplomacy: Political Application of Limited Naval Force* (New York: Praeger, 1970), p. 127. (Emphasis added)
2. US, Senate, Armed Services Committee, *Department of Defense Authorization for Appropriations for Fiscal Year 1979*, 95th Cong., 2d sess., 1978, p. 741.
3. Ibid., p. 1255.
4. Cable, *Gunboat Diplomacy*, p. 38.
5. A recent version of this argument appears in "Sea Plan 2000: Navy Force Planning Study," Department of the Navy (SECRET), 1978 (unclassified executive summary, especially pp. 6-10 passim).

6. See Edward Luttwak, *The Political Uses of Sea Power* (Baltimore: Johns Hopkins, 1974), pp. 3-11, passim.
7. Ibid., pp. 30-31. Luttwak argues that British gunboats represented national power, rather than naval power per se. In any event, the efficacy of that policy is beyond dispute.
8. See Barry M. Blechman and Stephen S. Kaplan, *The Use of Armed Forces as a Political Instrument* (Washington, DC: The Brookings Institution, 1976), p. 1.
9. Ibid. Blechman recounts the favorable Turkish reception of the battleship and the easing of Soviet pressure on Turkey. Luttwak, however, questions whether the *Missouri* could actually have done much against a Soviet naval force threat. The two views focus on different perceptions, however. The former stresses local perceptions, the latter those of a competing superpower.
10. The United States first deployed two carriers to the Mediterranean in 1950.
11. The disparity increased still further, of course, once the forward deployed forces were augmented by surged units.
12. See Michael McGwire, "The Turning Points in Naval Policy Formation," in Michael McGwire, ed., *Soviet Naval Developments: Context and Capability* (Halifax, Nova Scotia: Dalhousie University, 1973), pp. 173-176.
13. See Commander Robert D. Colvin, USN, "Aftermath of the Elath," *United States Naval Institute Proceedings* 95 (October 1969): 63.
14. Some have argued that even the "upper hand" was in doubt with respect to the Marines. See Martin Binkin and Jeffrey Record, *Where Does the Marine Corps Go From Here?* (Washington, DC: The Brookings Institution, 1976), pp. 30-42.
15. The record of US interventions in the 1950's tended to underscore this line of reasoning.
16. For a full discussion of the US role in the Indo-Pakistani crisis, and Indian perceptions of that role, see David K. Hall, "Case Studies: The Laotian War of 1962 and Indo-Pakistani War of 1971," in Blechman and Kaplan, *Use of Armed Forces*, Chapter IX, especially p. IX-45.
17. Though the United States did not have to fight for sea control—no shots were fired—there remains considerable uncertainty as to whether the Sixth Fleet would have prevailed in a shoot-out. See Elmo Zumwalt, *On Watch: A Memoir* (New York: Quadrangle, 1977), pp. 446-448. See also Robert G. Weinland, *Superpower Naval Diplomacy in the October 1973 Arab-Israeli War* (Arlington, VA: Center for Naval Analyses, 1978).
18. See Richard Haass, "Naval Arms Limitation in the Indian Ocean," *Survival*, March/April 1978, p. 53.
19. See Jesse W. Lewis, Jr., *The Strategic Balance in the Mediterranean* (Washington, DC: American Enterprise Institute, 1976), p. 73, and Barry M. Blechman, *The Control of Naval Armaments: Prospects and Possibilities* (Washington, DC: The Brookings Institution, 1975), p. 95.
20. The aircraft has a 200-nautical-mile radius and 2200-pound payload. See Barry C. Wheeler and Bill Sweetman, "Military Aircraft of the World," *Flight International*, 4 March 1976, pp. 614-615.

21. US, Congressional Budget Office, *US Projection Forces: Requirements, Scenarios, and Options*, Budget Issue Paper, April 1978, pp. 58-59.
22. US, Department of the Navy, Office of the Chief of Naval Operations, *Understanding Soviet Naval Developments* (Washington, DC: Government Printing Office, 1978), p. 22.
23. Robert P. Berman, *Soviet Air Power in Transition* (Washington, DC: The Brookings Institution, 1977), p. 62; Faith Thompson Campbell, "Uses of Soviet Armed Forces for Political Objectives," in Blechman and Kaplan, *Use of Armed Forces*, pp. XV-44, 45.
24. *Ibid.*, p.XV-46; Weinland, *Superpower Naval Diplomacy*, p. 61.
25. For a summary of Soviet capabilities see US, Congressional Budget Office, *US Projection Forces*, pp. 57-60, and James G. Roche, "The Soviets' Growing Reach: Implications of Comparative Capabilities to Project Military Power" (paper presented before the European-American workshop, 1977).
26. The manpower for combat and initial support increments for the two US divisions totals 66,291 troops. (Source: United States Air Force, Military Airlift Command.)
27. Roche, "Soviets' Growing Reach," p. 19.
28. There has been considerable concern about the continued loss of US bases (see, for example, Alvin J. Cottrell and Thomas H. Moorer, *US Overseas Bases: Problems of Projecting American Military Power Abroad* (Beverly Hills, CA: Sage, 1977). There is, however, a significant distinction between bases on foreign soil, like those the United States lost in the 1960's and 1970's, and bases on US territories.
29. For a discussion see LTC Richard G. Toye, USAF, "The Projection of US Power by the Air Force in the Western Pacific and Indian Oceans" (1978), p. 16. F-111's, flying "hi-lo-hi," have a combat radius of about 1,500 nautical miles; they could be refueled by KC-135's about 1,000 nautical miles from base; Wheeler and Sweetman, "Military Aircraft of the World," p. 611. B-52's could also conduct bomber runs in the Gulf or East Africa from Diego Garcia.
30. Soviet tactical fighters would have to be crated and airlifted to reach any combat area significantly distant from the USSR. Given the limitations of the airlift force, particularly the absence of numerous assured base facilities, and uncertainty about overflight rights, any effort to transport Soviet jets via airlift would seriously impair the transport of other forces, as well as of supplies to the crisis zone.
31. See US, Congressional Budget Office, *US Projection Forces*, pp. 57ff.
32. For example, see Weinland, *Superpower Naval Diplomacy*, pp. 18-19, 62-64. The United States had a long history of support for Israel. While it is not certain that the United States acted merely out of support for its client, the effects of Soviet support of the Arabs on the outcome of the Yom Kippur War were as significant for the United States as for Israel, and their interests tended to converge.
33. Ken Booth, "Warships and Political Influence," in Michael McGwire and John McDonnell, eds., *Soviet Naval Influence: Domestic and Foreign Dimensions* (New York: Praeger, 1977), p. 467.
34. See Weinland, *Superpower Naval Diplomacy*, pp. 32-33.
35. *Ibid.*, p. 39.
36. Roger Hilsman, *To Move a Nation: The Politics of Foreign Policy in the Administration of John F. Kennedy* (Garden City, New York: Doubleday, 1967), pp. 273-274.

37. A Marine division could deploy to the Gulf in no less than 30 days; an airborne division in about 14 days; US Congressional Budget Office, *US Projection Forces*, pp. 22, 82.
38. Blechman and Kaplan, *Use of Armed Forces*, pp. IV-3, IV-4.
39. Thirty-five C-5's and 117 C-141's would be required to move an airborne brigade from Diego Garcia to East Africa or the Persian Gulf (about 2500 miles) in one day. (Figures derived from calculations in US, Congressional Budget Office, *US Projection Forces*, pp. 77-82.)
40. Dale R. Tahtinen, *Arms in the Indian Ocean: Interests and Challenges* (Washington, DC: American Enterprise Institute, 1977), pp. 22-23.
41. Expanding the facilities at Diego Garcia would require additional Military Construction appropriations. Detailed cost analysis is beyond the scope of this paper. It is worth noting, however, that the cost of current military construction on Diego Garcia, which includes lengthening of the runway, and creation of storage and aircraft maintenance facilities, is about \$36 million (1979 dollars), or less than the procurement cost of two F-14 or F-15 aircraft.
42. It is noteworthy that during the 1973 war a Soviet surface action group targeted the US amphibious force in the Mediterranean despite its obvious inability to threaten Soviet territory. Major amphibious units therefore appear to call forth types of Soviet units and operations generally identified with the anticarrier mission. (See Weinland, *Superpower Naval Diplomacy*, pp. 59-60.)

**The US-Soviet Military
Balance and Nuclear
Proliferation**

An examination of the relationships among the US-Soviet strategic balance, US anti-proliferation policy, the activities of other nuclear weapons states, and the prospects and implications of further nuclear proliferation. An analysis of concurrent US and Soviet interests in preventing proliferation. An assessment of policy initiatives to contend with further proliferation.

Chairman

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The US-Soviet Military Balance and Nuclear Proliferation

Chairman's Plenary Session Summary

Joseph S. Nye

Our group was charged with looking at the question of the United States-Soviet military balance and nuclear proliferation. The central question for our panel was, "would proliferation have a strong effect on the US-Soviet military balance?"

In answering that question, we felt we had to break it into two time periods because the answer was dramatically different according to the time one assumed. If you take the short run (say roughly 5 years) and the longer term (10 to 15 years and beyond), we found that in the short run the answer that we gave to the question (would proliferation have a strong effect on the US-Soviet balance?) was: "not much." But when we looked at the longer term, we found that there could possibly be profound effects.

Let me elaborate on those two answers. In the short run we looked at a list of countries whose motives and capabilities made them likely candidates for proliferation in the period we were discussing. We found about six; but concluded that proliferation by these candidate countries would not have profound effects on the US-Soviet military balance.

When we took this out to the longer run, a 10- or 15-year period and beyond, we found proliferation candidates of a different nature which could have profound effects on the US-Soviet balance. In particular we were concerned about major industrial states. Germany and Japan, for example, are the second and third most important states in the world economy, and were major military powers before World War II. The last 30 years have seen a remarkable stability in the settlement of World War II and in the growth of a variety of forms of power which leads to a flexibility in bargaining across power sources. This situation adds a degree of stability to the kind of world we live in which surrounds and reinforces the central strategic system. The reversal of that situation would certainly have strong consequences for the central strategic balance.

How likely is it that such a major change could occur, that some of these major cases might in fact go nuclear? There again I think it is proper to summarize the view of our panel, in a cryptic phrase, "not very likely." But let me add a caveat, that when we looked at the scenarios in which you might see a nuclear Germany or Japan, we found that they did not have a very high probability unless one assumed major changes of policy—as one of our panelists put it, "a world turned upside down." Another panelist put it, "It would require a series of major mistakes by the United States, or a major shock," to get to that situation.

On the other hand, although we discounted these scenarios and argued that they did not have a high probability, we were not able to get them down to zero. We could

not rule them out in the long run. Weakness or foolish actions by the United States would certainly make a big difference in raising those probabilities. So as a first approximation, the answer to our central question was that the US-Soviet strategic balance was not likely to be affected by proliferation (although the converse case might well be different). We felt that the proliferation relationship to the central strategic balance was not strongly related in a causal sense—at least in the short run. In the longer run one had to deal with questions of probabilities and of how to deal with low probability scenarios.

That led us to an interesting excursion into the question: "Well, then, why worry about proliferation, if that's the case?" Indeed, one participant said that proliferation policy should be a no-cost policy, and essentially the idea of a no-cost policy is no policy. When any other policy can trump you, you have virtually no policy. The argument was for complete flexibility.

This argument became particularly interesting when we got away from its abstract presentation, and related it to policy decisions on the comprehensive test ban (CTB). This was an interesting argument on which the panel did not come to a common point of view. Those people who argued in favor of a comprehensive test ban cited five types of proliferation benefits from a CTB. They argued that: (1) A test ban would tend to reinforce the Nonproliferation Treaty, which is a central instrument in this area. (2) It would tend to take threshold candidates and prevent them from crossing the threshold by overt testing, keeping them at least in the quasi-proliferated status if they moved in that direction. (3) More specifically, a test ban could have a strong effect on the diplomacy now underway in South Asia, where there is an effort to prevent Pakistan from following India and to persuade India to reverse the process of having crossed the threshold and to step back on the non-weapons side. The Indians have indicated a willingness to adhere to a nondiscriminatory test ban. (4) Another benefit involved South Africa where pledges to the President of no testing could be reinforced by the treaty. (5) A fifth argument was the general South American situation in which the loopholes in the Treaty of Tlatelolco (which created a nonnuclear weapons zone in Latin America) could be closed by a comprehensive test ban.

Those were the proliferation advantages cited by the adherents of a test ban. The disadvantages or costs which were cited by the opponents of a test ban were that the cessation of testing, for any period, would diminish technical progress which was necessary for improving force structures, and that this was a cost which had to be weighed. In their view, if one puts a low priority on proliferation policy, this cost outweighs the potential benefits. So we were able to join this issue of priority in a fairly concrete way in our discussion of the test ban; it is only fair to report that the panel did come to a consensus on that.

On the other hand, in our general discussion of to what extent proliferation matters, we did evolve a degree of consensus. The group agreed that proliferation is not an absolute. One can imagine situations in which acceptance of proliferation would be the proper policy response because the alternative costs were too high. But, on the other hand, the group agreed that a relatively high priority for a nonproliferation policy was justified. We came up with six reasons which we collectively agreed justified that conclusion. I have grouped those reasons into three major clusters—those which affect the central strategic balance, those which affect other military security interests of the United States, and those which affect the broader political interests of the United States.

First, regarding the central strategic balance, we agreed that a change in the nuclear role of Germany and Japan, while a low-probability event, was a very high-disutility event; and that's the kind of situation for which we all pay heavy insurance premiums on our houses. In other words, an investment for the future would be prudent policy, and the further one looked into the future the greater were the grounds for the investment.

There is also a relationship between our short-run actions in the proliferation area and the long-run consequences. Mistakes in certain short-run cases could lead to chains of events which could eventually feed back into the central strategic balance. A clear example would be mistakes we might make in our relationship to Korea which could lead to nuclear proliferation in Korea, with strong effects on the nuclear status of Japan.

Another linkage that we saw between the short run and the long run was in relation to Germany, where the German decision not to go nuclear is a pretty stable decision in a world of carefully controlled or zero proliferation, but which might change in a multi-proliferated world in which the basic norms had broken down.

I might just flag another issue under the central strategic balance because it is interesting that we didn't place much emphasis on it. That was the argument that the short-run proliferation of events would have strong effects on our force structure and on our ability to negotiate further arms control agreements. While there was some evidence cited for this—for example, how would one respond to new proposals for ABM if there were serious proliferation—the general feeling was that this was a second-order or perhaps even a third-order effect. Though that point wasn't fully agreed upon, it is worth noticing that it was not a major concern when the panel looked at it.

The second major argument that proliferation deserves a high priority falls in the category that I call "other military security interests." That is the possibility of catalytic effects from new proliferating states on the calculability of deterrence and on the difficulty of maintaining a deterrent system when human error can play a role. There the feeling was that the uncertainty of the origin of some explosions and the possibility of error did add an element of danger that we would prefer to see out of the military relationship.

Another reason we gave under this category of "other military security interests" was a concern about non-state and quasi-state actors that would use a covert delivery system. The greater vulnerability of an open society as compared to our adversaries was a point which we had to consider when we looked at this type of possible nuclear threat.

The third large category, which has three points in it, I call the "broader political interests of the United States." First, our ability to manage regional balances would be affected by proliferation. We have strong political interests in some regions and our ability to protect those political interests could be affected by proliferation in the region.

We generally agreed that there were two probable responses going in quite opposite directions in the case of proliferation in a given region—"decoupling" or "deepening." The nature of the response would depend upon the nature of our interests in the region. If the likely response to proliferation in a region were decoupling, that would reduce our role and our ability to affect political interests in the area. If, on the other hand, the response in a region where we had strong political interests was a deepening involvement to try to manage the process, this would make our role more difficult and more dangerous. So the feeling was that our ability to manage regional balances safely

and with low security risks would be affected by proliferation.

Another broader political interest was the overall US power position in a world where there are multiple sources of power. The kind of situation which we have now allows a good deal of flexibility in bargaining and the United States is well placed as a major power in both the economic arena and in the military arena to benefit from being in both at the same time. A world in which there had been considerable proliferation would diminish that power position.

Finally, the maintenance of the high threshold and the political taboo against the use of nuclear weapons in war is an important political interest, both in terms of preventing loss of life and in terms of adding a degree of stability into the strategic relationship. We would prefer to have that taboo maintained. A multi-proliferated world or a world in which there were proliferation events in unstable regions is a world where that taboo would be much more likely to be violated.

So for those six reasons our panel concluded that proliferation did deserve a high priority as a policy issue.

It was rather interesting that when we took those six reasons and applied them to the Soviet Union, we came out with virtually the same answers. The USSR shares many of the same interests, though not in all the cases. This set of common interests led us to predict likely common responses to proliferation, though with some variability by region, between the United States and the Soviet Union. Some panelists cited the example of behavior in the Nuclear Suppliers' Group where the US and Soviet cooperation is relatively close and Soviet behavior has been very responsible. The net effect of that added some degree of stability into the central relationship.

These were the reasons for our conclusion that proliferation affects the central balance in the long run. We then asked the question of whether these were exceptions to the rule. Were there some areas where we didn't want to state it quite so generically? We looked at three possibilities for what one might call "benign cases of proliferation."

One hypothesis of a benign case was in a world in which the US strategic posture was severely weakened and proliferation might redress the balance. After arguing through this for a bit, we felt that to turn to encouraging proliferation as a way to redress US strategic weakness would be a little bit like using amputation to cure a sprained ankle. The feeling was that it would be far better as a policy instrument to improve our own defense posture because we would have far more control and there would be fewer collateral-political costs from that type of policy response. So essentially we rejected that hypothesis of a benign case.

A second hypothesis of a benign case was the situation of a country that was particularly difficult to defend. Yugoslavia was cited. But as we looked more carefully at the question of whether American security interests in Yugoslavia would be improved by proliferation, we entered what someone called the "valley of vulnerability." If one plotted a curve of the level of security of a nation over time—would that security go up as other nations got nuclear weapons? The consensus was that the first trend would be to go down, that a soft, vulnerable capability would not enhance security but would diminish it; and whatever the long-run effects, that that initial "valley of vulnerability" would be one of considerable danger.

There was a feeling there that the increased risks and instability would not be worth the policy outcome. The feeling was that there were other ways to deter invasion of

Yugoslavia when one put it in a larger political context. For example, the Soviet Union would face a number of costs and disruptions in its relationships with Western Europe by an invasion or pressure on Yugoslavia. Ironically, those other deterring effects might be counterbalanced by a soft, vulnerable Yugoslav nuclear capability, which would make the Soviets so nervous or feel so insecure that they would feel they had to override those other effects. So the panel came to the conclusion that the second hypothesis should also be rejected.

The third hypothesis of a possibly benign proliferation was what we called "quasi-proliferation" in the case of "pariah states," i.e., states extremely insecure in relation to their neighbors and isolated in world politics. If such countries were to advance toward the nuclear threshold (and I am now using explosion as a political threshold, though proliferation is obviously a staircase) but didn't cross it, that might subtly aid deterrence in the regional context.

As we discussed this situation, we found some plausibility in the scenario but concluded that the evidence wasn't in yet. A key question is, what are the lags before imitation, or when does the rival follow suit? We have not seen enough to judge that type of scenario. So while we did not completely reject the third hypothesis of benign quasi-proliferation, we felt that there was not enough evidence to be able to accept it.

After discussing and rejecting possible exceptions, we looked briefly at the converse of our central proposition. The converse was that the central balance would affect proliferation. There we found a strong effect. Whatever the effect of proliferation on the central balance, a significant weakening of the central balance would certainly have a strong negative effect on proliferation policy. But again we felt that one couldn't read too much into the details. For example, one couldn't answer questions about exact numbers on essential equivalence of counterforce capability because a major variable in the deterrent relationship is psychological, and those effects tend to swamp the precise answers on numbers. So we didn't feel that we had conclusions other than our sense that a major weakening in the central strategic balance would be very adverse for our proliferation policy interests.

Finally, we wrapped up our sessions with an evaluation of current policy.

There was general agreement among the panel that the objective of the non-proliferation policy should not be absolute but should be phrased in terms of slowing the rate and managing the process. On the other hand, there was a warning against too much flexibility. Too much flexibility would lead to a failure to deter proliferation.

A second general conclusion on current policy was that there is no single solution to the proliferation problem, but there was agreement among us that the largest piece of the puzzle in providing a solution is alliance maintenance. Maintenance of effective alliances and security guarantees, where credible, is the bedrock of proliferation policy. This means that the question of actions affecting existing alliances and security guarantees should be looked at from a nonproliferation perspective. The case of Korea was mentioned by a number of members of the panel.

We also looked at conventional arms policy and the so-called "dove's dilemma," of dissuading a country from going nuclear by enhancing its conventional capability. We found that the dove's dilemma, while it exists, is nowhere as sharp as it was expected to be. There are a number of gaps in any close causal relationship between provision of conventional arms and proliferation probabilities. We felt again that the first factor we

pointed to—the alliance relationship overall—was far more important than the details of the conventional arms transfer situations. Again a number of the members of the panel wanted to flag this in relation to Korea.

Third, and finally in our evaluation of current policy, we turned to the emphasis on fuel cycle questions, which has been prominent in the Carter administration policy.

There was general agreement that the fuel cycle question was not the largest piece of the problem or the largest part of the solution. But there was also agreement that it didn't follow that the fuel cycle questions were trivial. A world in which some 46 countries had ready flows of or access to ready flows of plutonium under current conditions was not one that made us feel comfortable. One of the panelists described two extremes in attitudes toward fuel cycle questions—those who see no relationship, what one might call the "ostriches who bury their heads in the sand," and those who see a complete relationship and want to stop nuclear energy ("those with their heads in the clouds"). The ostrich and the zealot positions were both rejected by the panel.

The panel felt that there is a need to keep the policy concerns in this area in a middle range of negotiability. There was a consensus that measures existed that could affect the timing and modality of the spread of sensitive facilities, particularly those using plutonium and highly enriched uranium; that the instruments of the Nuclear Suppliers' Group and the International Nuclear Fuel Cycle Evaluation were very useful; and that we needed to keep a balance between energy security and nonproliferation security concerns as we worked out this area of negotiability with other countries in the next 2 years or so.

So essentially I would read the policy conclusions from the panel as cautionary; not dramatic but very useful. I feel it was an extremely rich 2 days. I pared down what was a rich discussion to a few key policy points. Our rapporteur's notes will give a fuller summary of the very valuable discussion.

I want to thank the panelists and the paper writers, Dick Betts and Lew Dunn, for launching us into what I thought was an extremely interesting 2 days of discussion.

**The US-Soviet Military
Balance and Nuclear
Proliferation**

Rapporteur's Report

Lieutenant Colonel Neal E. Lamping, USAF

INTRODUCTION

Following brief introductory remarks by the chairman, the panel reviewed a proposed agenda for guiding its examination of the relationships among the US-Soviet strategic balance, the activities of the nuclear weapon and nonnuclear weapon states, US antiproliferation policy, and the implications of further nuclear proliferation. Panelists agreed to structure their subsequent discussions on nuclear proliferation within four general areas: (1) potential nuclear weapon proliferators; (2) US-USSR essential equivalence and strategic balance; (3) US-USSR mutual interests and potential for conflict and/or cooperation; and (4) evaluation of US nonproliferation policy. Subordinate items on the agenda were generally posed as thought-provoking questions, scenarios, or hypotheses designed to stimulate meaningful discourse among the panelists.

Recognizing that national nuclear plans and capabilities not only differ widely from state to state but also are in varying degrees of maturation or evolution, several time intervals were defined to facilitate mutual understanding and provide some common frame of reference for the panel deliberations. The short term was agreed to represent the next 1 to 2 years, the near to mid-term to represent the next decade (that is, out about 5 years or so, plus or minus 5 years), while the far or long term was understood to mean the 1990 to turn of the century period.

Two excellent, thought-stimulating papers by Richard K. Betts and Lewis A. Dunn had been prepared to initiate and complement the panel's activities. To complete the stage setting for the panel's discussions, each of the authors briefly summarized his paper at the start of the first two panel sessions and, in turn, responded to questions raised by the other panelists. Not unexpectedly, due to the complex interrelationships of the subject matter as well as normal group dynamics, the following two days of panel discussions often crossed repeatedly back and forth through the prescribed agenda topics. Accordingly, this report attempts to reassemble these sometimes diverse discussions and document as closely as possible, within the personal limitations of the rapporteur, the proceedings of this esteemed panel.

POTENTIAL PROLIFERATORS

As a point of departure, the panel considered a proposed list of 12 most probable candidate proliferation states which followed primarily from the Betts' paper: Israel,

Taiwan, Pakistan, India, South Africa, South Korea, Yugoslavia, Brazil, Argentina, Iran, Libya, and possibly Iraq. The panel recognized that these countries represent a somewhat conventional listing based on today's motivations or evolution of likely motivations and the expected or projected future nuclear capabilities of each country. It was understood that if motivations alone or capabilities alone were considered, the list would be much larger, containing probably a significant fraction of the nations of the world. Further proliferation discussions then focused on refinement and subdivision of the list based on time frame considerations and/or political or regional ties or frictions, as well as the addition of other plausible, albeit very scenario-dependent, candidate countries.

While the panel acknowledged that each of these 12 most likely proliferators has varying incentives and degrees of motivation to "go nuclear," i.e., acquire at least crude nuclear weapons, a major subdivision of the list based on a realistic assessment of their attaining the requisite national nuclear technological capability was proffered. The first six states on the list (Israel, Taiwan, Pakistan, India, South Africa and South Korea) were granted a near term (within the next 5 years or so) potential for achieving nuclear weapon state status; such status, however, would not necessarily be demonstrated by a nuclear detonation or a testing program. The latter six states were then categorized as far term (10 years or more) proliferation candidates. Further, within the latter group, Iran and Yugoslavia were noted to probably be on yet a different scale, placing them still farther out in time with respect to having both sufficient capability and motivation.

The omission from the potential proliferator list of states such as Romania, Vietnam, and North Korea was generally agreed to be due to heavy Soviet pressure and influence over them, and conversely, similar omissions of other states were attributable to US influence. However, North Korea had to be singled out as a special case, with its nuclear potential so very closely related to South Korea's attainment (or perceived attainment) of a nuclear weapon capability and the subsequent deepened or lessened (decoupled) involvement of the United States and USSR with each of these states. With respect to the omission of Japan and West Germany from the list, the panel concluded that even though the probability of nuclear weapon acquisition by either of them is extremely low, requiring a future "world-turned upside-down" scenario, they cannot be totally excluded from consideration due to the consequential formidable impact of such a decision on the US-USSR balance, the likely alliance disruptions, and a predictable ripple proliferation effect on the lesser nations of potential proliferators. Also, the possibility of subnational or terrorist groups, such as the PLO (Palestine Liberation Organization), acquiring by theft or clandestine means nuclear weapons for blackmail or hostage purposes cannot be excluded from the overall potential proliferator question.

Several panelists raised the question of the People's Republic of China's (PRC) initiatives or reactions in the nuclear proliferation arena, especially in relation to four of the more likely proliferation candidates: Pakistan, India, Taiwan, and South Korea. China has not accepted the Nonproliferation Treaty nor shown any willingness to accept International Atomic Energy Agency safeguards on its nuclear facilities. Yet it has not been a supplier of nuclear weapons, reactors, or fuel and has a stated policy of non-first use of nuclear weapons. However, in the proliferation vis-a-vis nonproliferation environment between China and Taiwan, between South Korea and North Korea, between China, Japan, and the USSR over Taiwan, South Korea, or North Korea, or between India and Pakistan, the role of China is ominous and would be a crucial element in fueling or defuzing any explosive chain of events in that hemisphere. But the most

likely case of concern here was concluded to be a souring of events on the Korean peninsula.

Permeating all the discussions on potential proliferators was a question on the irrationality of the acquisition of nuclear weapons by any of the nonnuclear weapon states. While a consensus was not reached, it was generally concluded that there are rational nationalistic motivations which might drive a nation to "go nuclear" and each of the states discussed, given the right conditions and scenario, might be pressed into that decision as its only recourse. It was also recognized that the rationality of any such national proliferation decision would be tempered to a great extent by the likely responses or consequences anticipated from the United States or USSR. For most nations, however, the political cost in acquiring and testing a nuclear weapon was seen as far outweighing continued nonproliferation and nondetonation of weapons. The current nonproliferation status, however fragile it may seem, in fact poses a tremendous psychological barrier for them.

ESSENTIAL EQUIVALENCE—STRATEGIC BALANCE

In addressing the impact of further nuclear weapon proliferation on the US-USSR posture of essential equivalence or strategic balance, the panel chose to avoid the difficult and complex task of defining what is meant by these terms and instead assumed that this condition existed roughly today. Depending on perceptions and choice of assessment factors, the panel noted that there are many varying degrees of roughness in the designation of a state of rough equivalence. But, for discussion purposes, any projected or hypothesized change in strategic balance would be measured against a presumed current posture of essential equivalence.

To the manifold considerations over what would be the impact on the US-Soviet strategic military balance if any of the 12 most likely proliferation candidates elected to acquire nuclear weapons in the near to mid-term, the panel simply concluded "not very much." It was generally felt that the acquisition of a limited number of nuclear weapons by any of these countries would hardly make more than a ripple on the SIOP (Single Integrated Operations Plan) of either the United States or the USSR and would produce little or no effect on their current force structures. Moreover, any threat of direct nuclear attack on the United States or USSR by any of these nations would be very unlikely since it would be tantamount to their national suicide. The primary impact of such proliferation would be on their traditional adversaries or on the alliances within their region. Depending on the particular countries involved and the circumstances surrounding the proliferation event, the United States or the USSR might well find itself forced to decouple from an ally or client or, conversely, to deepen its relationship with the proliferator in order to maintain some degree of control over the situation. Alliances, friendships, or pacts would be strained, threatened, or destroyed, but the overall central strategic balance affected very little. As a possible variant to this generalization, the acquisition of nuclear weapons by either Israel or South Korea was seen as having some significant military and political effect on the United States due to the expected precipitous decoupling from these countries or the fearsome commitment to still more deepened involvement with them. Likewise, the Soviet Union would have its analogous problems depending on the proliferating country and its political-military commitment to that country.

By far the single greatest impact on the strategic military balance of the United States and USSR would occur if either West Germany or Japan in the far term decided to develop and acquire nuclear weapons. Not only would this result in a direct challenge to the central strategic balance, but even less manageable would be the likely triggering of a chain of proliferation events among the lesser potential nuclear weapon states. While this worst case seems possible only as a result of some major political upheaval (a "world-turned-upside-down"), both the United States and the Soviet Union must be alert to the trends which could lead to such a world or regional environment and hence make an "upside-down-world" feasible and believable. In addition to citing the extreme volatility created by either of these countries "going nuclear," the panel noted that extensive vertical proliferation in China would also have far greater impact on the US-USSR balance than any horizontal proliferation among the group of the more likely candidate proliferators.

It was further hypothesized that nuclear proliferation by any one nation does not necessarily have any adverse impact on vital US security interests. This might especially be true where the nuclear proliferation, due to presumed national technical capabilities as well as recognized security and prestige motivations, was imputed or a quasi-proliferation (i.e., no declaration of possession, no detonation, and no testing). Some panelists argued that such an event could even be stabilizing to a previously belligerent region. Moreover, such quasi-proliferation, as opposed to overt proliferation, would not put the United States in a policy dilemma vis-a-vis the USSR and the other nuclear weapon states by having to excuse, take punitive action against, or sanction a friendly nation for violating policy. This scenario was characterized as a classic form of benign proliferation. While the panel's responses to this hypothesis were mixed, the major objection to tolerating quasi-proliferation was summed up as "all tumors are bad, even though some are benign." The nations of the world, and especially the superpowers confronted with quasi-proliferation by an ally or client, would pay a price, at a minimum in the form of limited alternatives or reduced flexibility. Furthermore, there may be no truly benign proliferation, because if some sanction or punitive action were not taken a precedent would have been set for other potential proliferators to follow. Any additional nuclear weapons spread, moreover, ultimately lowers the overall threshold to actual weapons use through the addition of another actor with the attendant permutations to the probability of nuclear confrontation.

As a final aspect of this area, the panel pointed out that while limited additional nuclear proliferation may not have much effect on US-USSR essential equivalence in the strategic military balance sense, there is a political impact on the diffusion of power in the world and hence a diminished ability on the part of the superpowers to provide some degree of control and stability. Also, the present nuclear balance among the acknowledged nuclear weapon states has some distinct effects in the economic realm. Further nuclear proliferation with the corresponding likelihood of decoupling, sanction imposition, or retrenchment by the United States would serve to disturb and diminish this element of its national power. Another noteworthy asymmetry potential exists for the United States due to the nature of its open society. The United States is considerably more vulnerable to covert implantation of nuclear devices in its cities by terrorist or subnational groups in order to influence concessions (blackmail) or political decisions.

MUTUAL INTERESTS AND COOPERATION

A basic premise that both the United States and USSR have significant mutual interests in nuclear nonproliferation which have and will continue to drive them to various degrees of cooperation went fundamentally unchallenged during the panel discussions on this topic. Both have clearly been active supporters of the nuclear Non-proliferation Treaty (NPT) and have had remarkable success in nuclear control and influence in their political-ideological spheres. It was noted that the Soviet Union, in particular, has strong parochial incentives to adhere to the NPT and appears to have used much of its leverage to avoid any nuclear weapon proliferation among its allies. Future major disturbances in nation-to-nation relationships, whether previously anticipated, evolving, or spasmodic, may further drive the United States and the USSR into still closer cooperation to deter proliferation, the appetite for nuclear proliferation, and the likely adverse chain of events resulting from any proliferation event.

Besides the NPT, the United States and USSR have many common and vested interests in supporting bilateral Strategic Arms Limitation Talks (SALT II/III) and in concluding a multilateral Comprehensive Test Ban (CTB) treaty in order to preclude additional proliferation. Not only do these instruments reinforce the NPT directly, but they also serve as a special deterrence to threshold proliferation candidates. Moreover, prior pledges by non-NPT countries to not acquire or test nuclear weapons would be strongly enhanced by favorable superpower agreements in these crucial areas. In turn, there would be an expected bolstering of both joint and national diplomatic and political leverage by the United States and USSR over potential proliferators. On the negative side, these agreements may adversely affect the symmetry of strategic balance (or the balance as perceived by the Third World) by restricting technological advances vital to maintenance of force structures, since these activities could be pursued clandestinely with much greater ease in the Soviet Union.

The panel hypothesized that in a more proliferated world of 8 to 10 nuclear weapon states sometime in the mid-term period, US-USSR freedom of action would be severely restricted with an augmented risk of confrontation and yet a reluctance to discontinue their prior nonproliferation advocacy activities. In such a situation, both powers might well jointly agree to decouple from an area (e.g., a proliferated Middle East), or since decoupling might preclude more desirable measures of control in the volatile area, they could well agree to jointly manage the crisis. In this latter case, a sort of superpower consortium was seen setting the rules of the game in terms of non-first use of nuclear weapons, retaliation expectations, and thresholds for superpower interjection into the game. However, both joint decoupling and joint management by the United States and USSR have obvious problems in implementation. Hence, an adapted pursuit of mutual interests seems more likely where a form of joint decoupling would apply in some regions and situations and a form of joint management in others, with prudence dictating the nature of the responses and reactions. A crucial factor would be superpower dialogue in the joint management of the spillovers of the hostilities. Panelists noted that this hypothesis is very dependent on the new nuclear weapon states being normal and mature in their behavior (i.e., having primarily acquired nuclear weapons for their deterrent value) as opposed to being an abnormal state behaving in a rash manner, say as a result of a coup d'etat. Certainly this latter kind of situation would demand timely, close cooperation, joint management, and unimpared dialogue between the United States and the USSR to avoid a rapid deterioration of the situation leading to spontane-

ous nuclear weapon use. Additionally, worldwide public opinion could be expected to have great influence on the actions of the superpowers in such a more proliferated world; specifically, there would be strong expectations of cooperation toward joint crisis management. The panel concluded, however, that it is probably too optimistic to think that the United States and USSR can "game-out" in advance any concrete joint management procedures. More realistically, an initial superpower response to such new proliferations would likely range from doing nothing at first to next assessing the situation for individual nationalistic interests and gains. But as hostilities become imminent with the realism of the actual event unfolding, then joint crisis management would evolve driven by particular circumstances and crucial variants of the event. One unanimous conclusion from this hypothetical future world environment was that advance dialogue between the United States and USSR would be most helpful, if not pivotal, to guaranteeing an avenue for cooperation when nuclear confrontation crises arise.

Further significant panel discussion focused on the mutual interests of the United States and USSR in using conventional arms transfers to discourage nuclear weapon acquisition. A question was specifically raised concerning the increased transfer of more and more sophisticated conventional arms; such buildup might elevate the likelihood of their use, and result in hostilities spawning the acquisition and subsequent use of nuclear weapons. The most forthcoming response to this was that the psychological impediments to nuclear weapon use are just too great. Estimates of the death toll for third country nuclear conflagrations have been set at (and are generally believed to be) an order of magnitude higher than for a similar conventional arms confrontation. Public opinion was presumed to sooner tolerate two countries slugging it out mercilessly with conventional weapons rather than having a single nuclear detonation occur in the conflict. More importance, however, was placed in the creation of greater stability, vested interests, and varying degrees of involvement by the United States or USSR through the transfer of conventional arms to other nations. By providing (selling) these arms, the Third World appetite for military strength to guarantee their sovereignty and national security could reasonably be satisfied. Furthermore, the seller of the arms is in an extremely favorable position of leverage over the recipient country and can exercise positive control over the nature (defensive arms versus offensive arms), flow, quantity, and sophistication of these arms, thereby diminishing potential linkage to nuclear arms appetites. On the other hand, conventional arms transfers were not seen as a panacea to reducing nuclear proliferation. The costs to seller countries are quite high. Both the United States and the USSR have been pitted against each other in the Third World competition for arms. Along with the more favorable leverage that accrues to the supplier, there corresponds a penalty of a greatly increased difficulty in decoupling from the recipient country if it were to "go nuclear." Additionally, no matter how much conventional armament is transferred or how close the seller-recipient relationship, the country may still not feel entirely secure with only conventional arms at its disposal.

In summary, the US and Soviet Union's national interests in continued non-proliferation were considered to be extremely high with a remarkable degree of commonality. Both place great importance in the central strategic balance of today's world and realize the perturbations to this balance to be expected from nuclear proliferation. Both recognize that proliferation events are regionally destabilizing and would severely damage or impede each country's ability to manage regional confrontations. Both seem to understand well the potential catalytic effects of further proliferation, the corresponding increase in regional volatility, and the incalculability of future events. And

both must be acutely aware of the likely reduction in their individual positions of power, flexibility, and overall freedom of action. Therefore, these manifold factors are seen as fostering and enhancing the prospects for substantive US-USSR cooperation in the nuclear nonproliferation arena.

EVALUATION OF POLICY

Historically the nuclear nonproliferation policy of the United States has fluctuated between the extreme of monopolistic protection and secrecy for its nuclear technology, and the extreme of "atoms for peace" transfer of nuclear science and technology to promote nuclear energy and peaceful uses of the split atom. Over the intervening years, a worldwide fear of unbridled nuclear weapon proliferation and potential regional nuclear clashes produced a nuclear Nonproliferation Treaty which has been accepted in fact (ratified) or in spirit by a majority of the nations of the world. This however left some contradictions in the evolving US policy; these contradictions have only recently been pulled together in the Nuclear Nonproliferation Act of 1978, which seeks to balance the concern over nuclear proliferation with the legitimate use of peaceful nuclear power to meet energy demands.

In assessing the current US policy, the panel raised the possibility that US nonproliferation activities should not be pursued to where it costs the United States either military capability and flexibility or technological progress. For example, the CTB or SALT II/III may be a cost that the United States can ill afford, and nonproliferation policy should cautiously be reconciled in terms of the price paid in vital US interests. In opposition, it was noted that a "no cost" policy degenerates to no policy at all and hence becomes case-by-case handling of proliferation issues. And no policy on proliferation could be tantamount to permitting some proliferation. It was further argued that the United States will ultimately have to pay some price for nonproliferation, so the question becomes one of prioritizing or balancing the costs with the gains. The CTB treaty may well be a necessary minimum price to pay because the United States in fact would lose much of its national flexibility in a more proliferated world with considerably fewer options available in crisis situations as well as day-to-day international relations. A potentially intolerable economic and political climate for the United States both within and external to various alliance frameworks, was also considered more likely in any highly proliferated environment.

Another scenario was offered where sufficient erosion of the US-USSR essential equivalence posture had occurred such that the United States might well consider prevention of nuclear proliferation not worth the price and in fact might tolerate limited proliferation to balance its weakened position. For example, tacitly allowing a stable, mature country like West Germany to acquire nuclear weapons and permitting its direct control (finger on the trigger) over these weapons could provide a much more credible deterrence, supplementing the lessened US posture, since it would be quite believable that West Germany would unhesitatingly use them for national survival or reprisal if that failed. Conversely, the panel noted that such a situation would be highly undesirable, adding great instability to the West's deterrence of the USSR due to considerably increased likelihood of employment of nuclear forces. Panel members agreed a much better solution, albeit costlier in terms of dollars and national resources, would be for the United States to build up its own defense forces to maintain an autonomous state of equiva-

lence with the Soviets. This conclusion then seemed to argue that there are some aspects of nonproliferation policy that clearly make it worth the effort and price.

Unanimity subsequently prevailed on the conclusion that nonproliferation policy was not absolute and there was no single solution to the proliferation problem. However, one of the single most important elements of the policy must be maintenance of security guarantees to those countries most likely to upset the US-USSR strategic military balance. Near-term policy must emphasize other nations carrying more weight in the nonproliferation arena and committing their national influences to dampen any regional proliferation chain of events. And finally, nonproliferation policy should be viewed, prioritized, and balanced in the context of broader national policy.

The final panel discussions were directed to the relationship between national energy policy and proliferation policy. Cornerstones of the policy must be the integral accommodation of the national concerns for energy security, as well as requisite alteration of the nuclear fuel cycle to complement nonproliferation objectives. The spread of uranium enrichment facilities, the growing availability of plutonium resulting from the current nuclear fuel cycle and projected breeder reactors, and the corresponding spread of plutonium reprocessing facilities cause severe problems to US policy in both areas. The US example of foregoing pursuit of a commercial breeder reactor for the present, provision of a guaranteed secure source of nuclear fuel, and acceptance in return of spent nuclear fuel is a fundamental first step to encouraging restraint in the spread of potential weapons-grade fuel until technology has cleaned-up the nuclear fuel cycle. It is considered imperative to convince other nations, especially France, Germany, and Great Britain, that they have a vital stake in this effort to slow the spread of sensitive nuclear facilities despite any perceived near-term economic motivations to the contrary. On the other hand, the United States must fully appreciate that national energy security is a paramount concern of all developed and developing nations; and hence the United States would be better off in the long run by helping such countries achieve their energy security rather than letting them go their own ways and thereby exacerbate the potential for proliferation. The panel concluded that the policy solution had to be a carefully weighed balance between energy security and nonproliferation security which would maintain positive control over the timing and mode of the spread and expansion of sensitive nuclear technology and facilities.

Prospects for Nuclear Proliferation: 1978-1990

Richard K. Betts

Any exercise in futurology is either heroic or foolhardy. Seldom do detailed predictions of major developments in international politics turn out to be on the mark. As one elder academic statesman has noted, an analyst attempting such a projection in 1961—

would probably have missed the Cuban missile crisis, the ensuing Soviet military build-up, the war in Vietnam and its outcome, the rise of terrorism, the Middle East wars of 1967 and 1973, the petroleum embargo, pervasive inflation, the strategic arms negotiations, the Greek-Turkish quarrel over Cyprus and its destructive consequences . . . the leftward drift in Western European politics, numerous discontinuities in political leadership and especially in the American presidency, and the weakening of executive authority in the United States.¹

A forecast of the probabilities of proliferation and speculation on the best ways to prevent it may turn out to be equally embarrassing. Everything depends on a complex number of imponderables and "if . . . then" propositions; unforeseen change in one variable may alter the whole process. But as with national security in general, the gravity of the problem precludes suspending judgment. To judge, however, requires not only careful weighing of evidence, but selection of conceptual premises that are appropriate to understanding the process of cause and effect on the issue and deducing which indicators tell us the most. Such assumptions inevitably bias interpretation, so I will briefly list those on which I base my prognosis—especially since many other people involved in dealing with the proliferation problem do not share some of them.

—Acquisition of nuclear weapons may be dangerous or wrong, but it is not necessarily irrational. With very few exceptions the nations that seek such weapons will do so because they have utility for deterrence, defense, diplomatic bargaining, or aggressive coercion.

—*Capability* to build nuclear weapons is the prerequisite but not the determinant of a decision to do so. Nations will not accidentally acquire them; such weapons will not emerge as a natural by-product of acquisition of plutonium reprocessing or uranium enrichment facilities.

—Proliferation is a collection of particular problems with different causes and solutions, depending on the case; it is not a uniform problem with identical causes and remedies applicable worldwide.

—The proliferation problem is a subset of the larger problem of national security, not a separable issue that can be dealt with in its own terms. Non-proliferation policies that do not attack the problem in terms of the larger politico-military context, in each case, will fail.

—Nonproliferation is a vital US interest, but not the most vital. In some cases success in preventing proliferation may not be worth the price.

CANDIDATES FOR PROLIFERATION: CAPABILITIES AND MOTIVES

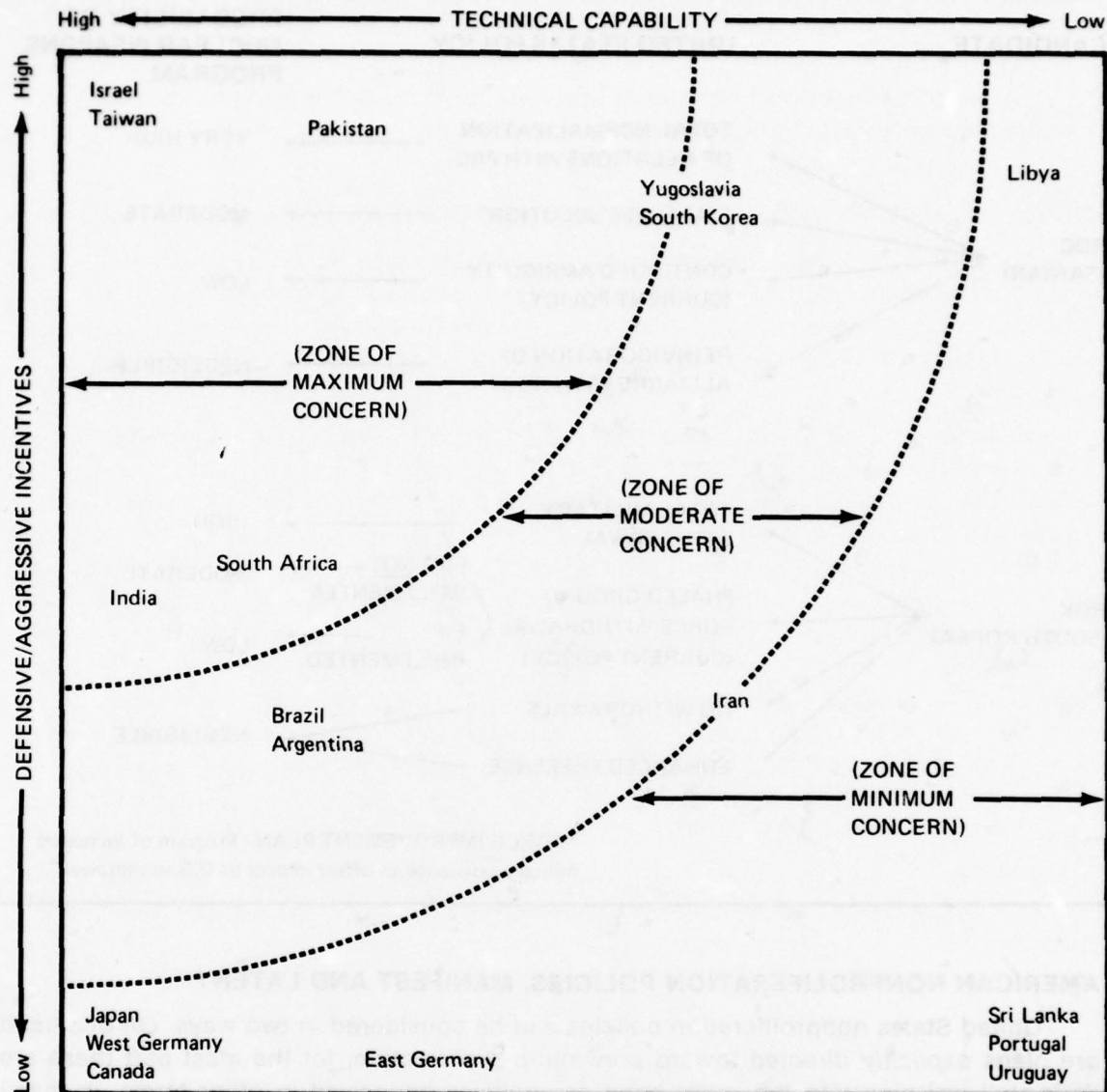
Proliferation is a global problem in the sense that it may happen in more than one country and region and may threaten large numbers of nations around the world. But it is not a global problem in the sense of being similar everywhere in its causes, severity or solutions. *Focusing on precisely which countries constitute the problem highlights the complexity of the problem.*

To build nuclear weapons, a country must have *both* the will and the means. Some states have, and have had for a long time, the technical capacity to undertake a weapons program but have lacked a motive to exercise the option (for example, West Germany and Japan); some may have an interest in a weapons option, but lack the infrastructure of industry and expertise to pursue it (perhaps Libya) or might develop an interest if somehow the option were easily available (perhaps Uganda); others have or will soon have the fundamental technical requisites, and have or may develop—depending on the evolution of their foreign policy goals and military alternatives—the desire for weapons. The first category of states does not fall into our sphere of concern, barring a cataclysmic change in either their national leaderships, their alliance relations, or the policies of the USSR or PRC. The second group is not a cause for concern until after 1990, unless they act in a manner comparable to the subnational or transnational terrorists we worry about, stealing plutonium. The third category is the most salient.

Any membership list for this third group is necessarily speculative since projections of plutonium availability are subject to change and the only objective confirmation of motivation would be an actual attempt to build the weapons. Moreover, technical capacity, apart from covert construction of small, "dirty" reprocessing labs in unsuspected locations, can be monitored with some precision, but motivation is subjective, contingent on continuities or changes in politico-military factors, and a long continuum from little to much rather than an either/or dichotomy. My own tentative judgment of candidates for proliferation by 1990 is represented in Figure 1. Assuming continuation of current trends in US policy, regional strategic equations, and acquisition and development of weapons-applicable nuclear energy facilities, the countries toward the upper-left quadrant of the figure—with a high combination of both capability and incentive—are those of greatest concern (those listed toward the lower right are randomly selected, for illustrative purposes). The extent to which these rankings are contingent on American actions is suggested by Figure 2, which is a speculative projection of the alternative impacts on motivation of various US policies toward two of the countries.

Nonproliferation initiatives toward retarding the diffusion of sensitive nuclear technology (principally plutonium reprocessing and uranium enrichment) may be effective, but most probably only in regard to those countries on the right-hand side of Figure 1—ones who have not yet built or contracted for facilities that can produce fissionable materials. For some of these countries, however, an "option-denial" policy may be

Figure 1

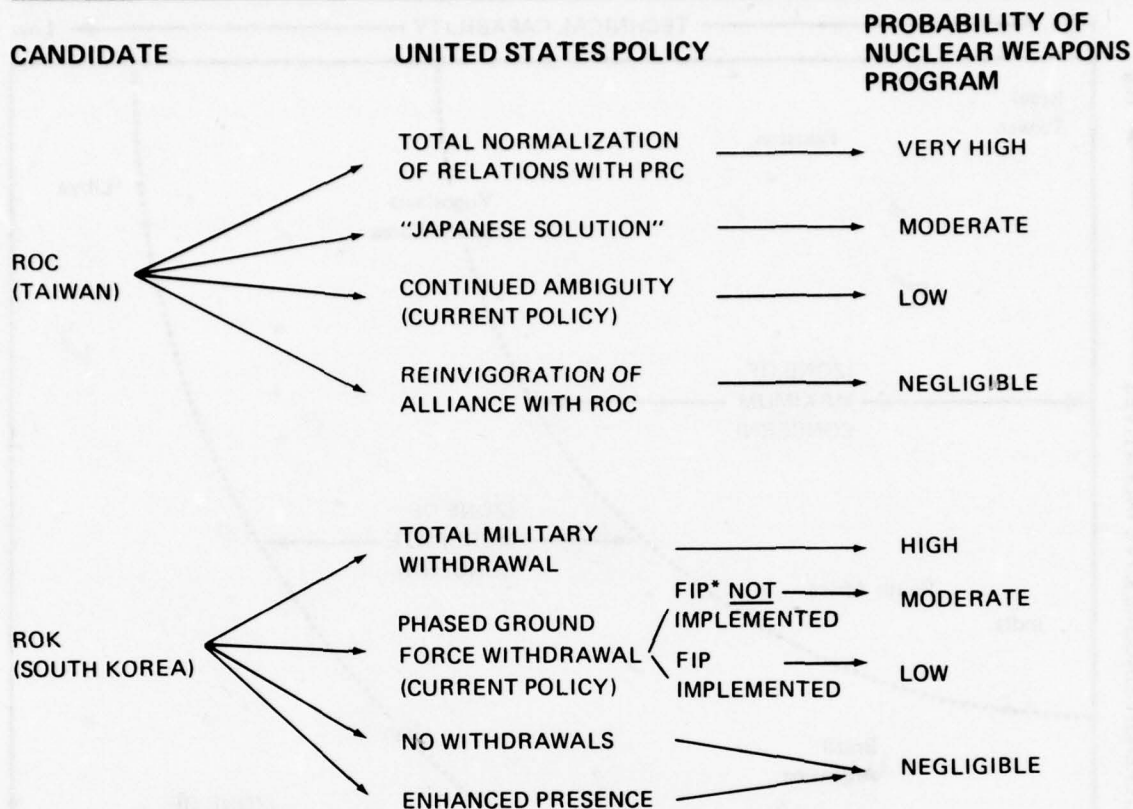
CAPABILITIES AND MOTIVATIONS FOR PROLIFERATION

insufficient if not coupled with initiatives to keep motivations under control. Iran, for instance, has no current plans to obtain indigenous reprocessing or enrichment plants, but if strategic incentives were to become compelling the Shah might be able to circumvent supplier restrictions—either by finding a “renegade” supplier, or by sacrificing a substantial portion of Iran’s ample revenues to recruit a large corps of nuclear engineers and “scientific mercenaries”² for an autonomous crash program. This might not suffice to construct a commercially viable or cost-effective source of plutonium, but it could at least yield crude facilities satisfactory for military purposes.

The list of candidates for proliferation in the next dozen years is thus a function of both demand (national insecurities or assertive designs) and supply (technical capability). Neither dimension can be fully or reliably controlled by the United States, USSR, or other great powers, but their policies can have a significant influence on probabilities.

Figure 2

U.S. POLICY ALTERNATIVES AND PROLIFERATION INCENTIVES



*FORCE IMPROVEMENT PLAN - Program of increased military assistance to offset impact of U.S. withdrawal.

AMERICAN NONPROLIFERATION POLICIES, MANIFEST AND LATENT

United States nonproliferation policies can be considered in two ways. On one hand are plans *explicitly* directed toward preventing proliferation; for the most part these are "supply" policies. On the other hand are policies conceived in other terms, in many cases without conscious reference to the issue of nuclear spread, which have *implicit* consequences for nonproliferation, particularly in the "demand" dimension. The first set is that which is most commonly considered as official nonproliferation policy, but a comprehensive assessment of the net impact of American actions on the probabilities of proliferation requires attention to both categories.

The most important direct US initiatives are those being undertaken by the executive branch to encourage postponement of resort to use of plutonium for energy programs and to minimize transfers of sensitive technologies; these initiatives include guidelines agreements in the London meetings of the Nuclear Suppliers Group.³ Also crucial are the legal restraints on US nuclear exports embodied in the Nuclear Non-Proliferation Act of 1978. This legislation is quite complex, but in simple terms it stipulates that the United States renegotiate nuclear cooperation agreements before 1980, and

that it develop mechanisms to assure adequate nuclear fuel supplies for foreign customers—

*only if such states accept IAEA safeguards on all their peaceful nuclear activities, do not manufacture or otherwise acquire any nuclear explosive device, do not establish any new enrichment or reprocessing facilities under their de facto or de jure control, and place any such existing facilities under effective international auspices and inspection.*⁴

Though the administration endorsed the bill, and there is some disagreement over its interpretation, it may prove to be in specific instances more uniformly confining than the executive branch wishes. For example, when the Nuclear Regulatory Commission decided in April 1978, on a tie vote, to deny a license for export of 17,000 pounds of low-enriched fuel to India, President Carter took advantage of the waiver provision in the Act and overruled the commission. He argued that India's application was in compliance with the law, and rejection would damage American efforts to induce India to accept new safeguards requirements before the 1980 deadline.⁵

There have been two principal results of the Carter administration's initial review of nonproliferation policies, both of which address the availability of capability and reflect a universalistic approach to the candidates (that is, applying similar rather than differentiated standards). One is the move, in conjunction with other nuclear suppliers, to maximize the delay of sensitive nuclear equipment transfers "until we have time to develop more proliferation-resistant technology . . . (and) an international consensus both on the undesirability of the further spread of nuclear weapons and on the nature and management of the nuclear fuel cycle."⁶ The second is a 2-year International Fuel Cycle Evaluation (INFCE) with 40 countries participating in 8 Working Groups on various issues. (To some critics the consensus-building rationale for INFCE was preempted at the starting gate by the unilateral determinations in the recent US legislation.⁷)

American policies in areas related to incentives for proliferation are less clear. There have been a few genuflections to the need to alleviate national insecurities that prompt interest in nuclear defense options, but very few apparent explicit or detailed linkages between nonproliferation goals and US policies on alliance commitments, military deployments, and arms transfers.⁸ The burst of energy, activism, and diplomatic arm-twisting that has characterized supply policy has not been matched by comparable innovation and expansion of involvement in proliferation-relevant security policy.

One argument is that multilateral agreements such as the Nuclear Non-Proliferation Treaty (NPT) and the Latin American Nuclear-Free Zone (NFZ) help reduce security incentives,⁹ but this is dubious. Neither provides tangible defense protection, especially against conventional military threats, and many of the proliferation candidates who occasion concern are not parties to the agreements. At best, adherence to the NPT and NFZ *reflects* motives; it does not determine them. It also seems incongruous if the administration does not regard legal adherence to the NPT or NFZ as sufficient for a country to be trusted with energy facilities with weapons-applicable capabilities, yet believes that such legal adherence has any more value in affecting the country's strategic intentions, or should be any more reassuring to security-motivated candidates than it is to the United States.

United States policy in the politico-military sphere has been most congruent with nonproliferation goals in regard to Western Europe. Renewed emphasis on fortifying

NATO reinforces the reasons the Federal Republic of Germany (FRG) has to continue to forswear national nuclear weapons. American policy has been least consistent with nonproliferation in the Far East. The decision to withdraw the 2d Division from Korea may not provoke a ROK nuclear weapons program, but if it has any impact either way at all it will be in that direction. That decision, in conjunction with retrenchment of other US deployment in the Western Pacific, also does nothing to reduce any incentives Japan may have for a nuclear deterrent, but that country still remains low on the list of motivation.

In other regions, US diplomacy and security policies have had mixed relationships to nonproliferation goals. In the Middle East the need to expend political capital on pressuring Israel toward strategic concessions may enhance the perceived salience of the nuclear option—for diplomatic as well as strategic or tactical purposes—in the eyes of Israeli leaders, but if the process bears fruit and some credible peace is established, that salience should recede. In South Asia the American refusal to sell A-7 aircraft to Pakistan underlines the conventional military inferiority to India that may impel pursuit of a nuclear option in Islamabad, but there is no public evidence that the Pakistani Government would have accepted a nonproliferation quid pro quo—cancellation of its purchase of a reprocessing plant from France—in exchange for the A-7's. In Taiwan, the United States convinced the government to dismantle its reprocessing lab, and the persisting ambiguity of the American stance toward the PRC still leaves the defense pact between Washington and Taipei intact—thus leaving something important that the ROC still has to lose should it inaugurate a nuclear weapons program. Should the United States derecognize the Taipei regime and sever its military commitment, in the interest of solidifying relations with Peking, there would be little constraint on ROC incentives for a nuclear deterrent force. In South Africa, activities that were seen by US and Soviet leaders as preparations for a nuclear explosion provoked a diplomatic fusillade from the great powers, and no test occurred. In this instance the United States properly took no actions to reassure Pretoria about its vulnerability, but rather posed the threat of *additional* problems the regime would face should it detonate a device. (In one sense, however, it is arguable that the superpower uproar demonstrated to South African leaders the significance of their nuclear potential, and the extent to which under other circumstances in the future it might be a valuable card to play for diplomatic leverage.)

Because the factors that may trigger proliferation are so complex, contingent, and overlapping, it is difficult to chart the impact of American policies—especially the implicit ones—on candidates' motivations. Some policies may also be either counterproductive, double-edged, or uncertain in effect. Table 1 is a selective suggestion of such impacts from initiatives of the last two administrations. The categorizations or the balance between "pro" and "anti" proliferation measures might justifiably strike administration supporters as unfair, but it is meant primarily to be illustrative of the difficulty of conceptualizing nonproliferation policy in simple terms.

THE ODDS FOR SUCCESS

The entire topic of future proliferation of nuclear weapons is by definition speculative. The variables that determine the process are numerous, and US policies are far from the only ones. The evolution of regional antagonisms (or detentes) and military balances, ambitions of particular countries, the postures of the superpowers, changes among decisionmaking elites in candidate countries, patterns of diffusion of conventional military hardware, and the circumstances and pace of diffusion of fission-

Table 1

ADMINISTRATION ACTIONS: EXAMPLES OF IMPACTS ON PROBABILITY OF NUCLEAR SPREAD

Anti-Proliferation

Supply pressure: ROK
 Temporizing on PRC normalization
 De facto nonimplementation
 of Carter arms transfer
 policy: Iran
 International Fuel Cycle
 Evaluation
 Offer to accept spent
 fuel

Pro-Proliferation

Supply pressure: Brazil
 Korea troop withdrawal decision
 Implementation of Carter arms
 transfer policy: Pakistan

?South Africa
 test flap?

enabling technologies—all bear on the probability of new national nuclear weapons programs. Prediction thus can be only a very tentative educated guess.

The supply-oriented policies of the current American administration are likely to be extremely effective vis-a-vis a large number of countries, especially those (such as Uruguay, Zambia, etc.) that cause the least worry to nonproliferationists. Countries that have rudimentary technical capabilities, negligible nuclear energy programs, modest economic resources, and no security problems to which nuclear weapons seem relevant will probably willingly accede to restraints on development of dangerous aspects of the fuel cycle. And if they do not, they will lack the capacity to circumvent the supplier restrictions. These policies also have a substantial chance of success vis-a-vis other more likely candidates whose interest in nuclear weapons, all else being equal, is *marginal*; the additional constraints posed by suppliers, as well as the quid pro quo inducement of assured fuel suppliers envisioned in the new US legislation, should tilt the balance of decision against a weapons option. (This assumes the INFCE initiative will not backfire—which is possible—and yield more dissensus than consensus. And it assumes that the severe strains US supply policy has created in relations with allies, such as the bitter wrangling with the FRG over its deal with Brazil, which one German observer characterized as "the most serious clash in US-German relations since the war,"¹⁰ will not weaken supplier solidarity.) To the extent that proliferation is a global problem requiring global solutions, or that all countries in the world are considered potential candidates, current policy and attempts to solidify a global consensus and "international institutional response"¹¹ appear extremely promising. In the case of prestige motivations, however, this may be less true. To a would-be great power, insistence on foregoing sophisticated nuclear facilities could seem to smack of paternalism or *diktat*. Thus one could argue that the Brazilian outrage at US prodding to cancel reprocessing and enrichment facility contracts with Germany, at the time of Deputy Secretary of State Christopher's mission in spring 1977, invested the nuclear issue with the issue of national sovereignty, and thus possibly inflamed interest in at least a latent weapons option.

The crucial problem is that no international consensus or regime is ever absolute. The *exceptions* to a regime—those countries that reject the norms and surmount the physical constraints—are precisely those that matter the most. India, Pakistan, Taiwan, and South Africa are the most obvious cases in point. And even if some proliferation-resistant “technical fix” emerges that is broadly applicable—a hope that seems more prevalent in the political community than in the scientific community—it is too late to hope it will solve the problem these countries pose. They already possess the expertise and have or are constructing basic installations relevant to a bomb option, and they all (with the possible partial exception of India, which has nevertheless detonated a device) face security threats to which nuclear weapons could seem relevant militarily or politically. Israel, Taiwan, and South Africa, moreover, have been ostracized by most of the international community; it would thus be foolhardy to assume that they will automatically perceive the necessity to adhere to an international regime (which implies community) unless they gain something by doing so. Aside from near-term vulnerability to fuel embargoes, it is not clear that they have much to gain from such adherence in the absence of complementary measures to alleviate their strategic vulnerabilities. And the problem with such “exceptional” countries is that, even if they represent only a small number of the countries in the world, they could undermine whatever regime the others might be willing to accept. If several of them get nuclear weapons, a new departure will have been taken in the process of proliferation. Heretofore, proliferation has correlated with the hierarchy of international power. All the nuclear weapons states are major powers. Once several small or weak states enter the club, it may appear much less logical to other nations to adhere to the division stipulated in the NPT. In these terms, then, the odds for general nonproliferation success depend heavily on a few countries’ decisions, and on great power policies that affect demand.

Some nonproliferation advocates believe that as consensus-building consultations such as INFCE go forward, greater awareness of the disutility of nuclear weapons will grow and discourage interest in destabilizing and costly diversions of resources to nuclear forces. There may be no harm in *hoping* for this, but it is a delusion to expect it. First, nuclear weapons obviously *do* have utility. That is why we worry about proliferation; if such weapons were not frighteningly useful, addition of members to the nuclear club would be a matter of indifference. Second, there is one obvious fact that attests to this point and undermines the credibility of protestations designed to convince candidates they have no need for nuclear weapons: the superpowers maintain massive inventories of such weapons and rely heavily on them for their own defenses. Even if SALT II succeeds, and SALT III yields impressive reductions—an eventuality that appears highly dubious at the moment—nuclear weapons will remain a strategic reality. Should President Carter’s utopian vision of abolition of nuclear weapons ever come to pass, which is certainly not possible by 1990 and probably never, it would take a breathtaking victory of idealistic hope over cynical realism to believe some aggressive state would not seize the opportunity to build new ones and grab the number-one position in the hierarchy of international power.

Even taking small steps in this direction would require reversal of basic elements of American military policy. For instance Nye suggests “we must avoid military doctrines that imply that nuclear weapons have more than a negative or deterrent role.”¹² Yet although its credibility has declined precipitously, US policy for years has rested on the declaration that we would use nuclear weapons first—including strategic as well as tactical forces—rather than accept a defeat of NATO forces in a conventional European war.

Every time the option of a no-first-use policy has surfaced in policy debates, it has been rejected, and the first-use option remains our official stance today. Finally, maintenance of such a strong American nuclear posture is necessary to reassure some states that might otherwise seek to compensate for loss of the "umbrella" by building their own deterrent. For these countries, *their* horizontal nonproliferation is partially underwritten by *our* vertical proliferation. Germany is the most critical example. All of this suggests that measures likely to enhance success of nonproliferation policy lie in more modest directions. In general these measures are those that (1) retard spread of weapons-applicable energy facilities without aggravating candidates' prestige incentives or anxieties about energy dependence to a degree that could prompt sacrifice and investment sufficient to build indigenous (and unsafeguarded) reprocessing or enrichment facilities; (2) reduce national insecurities and military vulnerabilities; or (3) threaten potential proliferators with costs (such as qualification of security guarantees, reduction or termination of economic and military assistance, or more active sanctions) that outweigh the prospective benefits of nuclear weapons capability. As the previous section suggested, some of these measures are being undertaken, although in some particular instances they may not always have the desired effect, and others are being considered halfheartedly if at all because they pose costs for other US policy goals.

It is possible that emphasizing the complexity and drawbacks of the American policies affecting proliferation paints too bleak a picture. Even if supply restraints prove unsuccessful and demand restraints prove infeasible, substantial proliferation is not inevitable. When China entered the nuclear club in 1964, and when India detonated its "peaceful" device a decade later, there was a flurry of hand-wringing that the events might trigger a rapid chain reaction of many more national nuclear weapons programs. It did not happen in either case, and it may not happen before 1990. Luckily most nations, including many with significant incentives for such weapons, still perceive compelling reasons not to strive for them. Any judgment of the probabilities has to be extremely subjective. My own guess is that it is almost certain that one or two more nations will achieve overt nuclear weapons capability in the next dozen years, moderately likely that three or four will do so, but very unlikely that the number will be any greater. It is quite probable, however, that a large number of states will seek (and some will achieve) a nuclear weapons *option*—that is, an untested set of components, or "bombs in the basement." This course poses fewer politico-military dangers or economic costs than an overt nuclear force, while offering a hedge that responds to some of the incentives for weapons.

AMERICAN AND SOVIET NONPROLIFERATION POLICIES: MUTUAL INTERESTS AND PROSPECTS FOR COOPERATION

Arguments of some Third World nationalists to the contrary, proliferation threatens the international system as a whole by opening more opportunities for political and military instabilities to escalate disastrously beyond regional confines rather than play themselves out at a limited level of destruction, and by multiplying nuclear decision centers to an extent that increases the chances of irrational or accidental resort to nuclear force. Yet while generally dangerous, proliferation poses more threats to some states than others. Of the two superpowers, the Soviet Union probably has even more reason to feel threatened by nuclear spread than does the United States. Of the likely near-term candidates, none is likely to target the United States, but several might have both reason and capability to target the USSR (see Table 2). For this reason if not others, the Soviets have been no less responsible

Table 2

PROSPECTIVE TARGETS OF PROLIFERATORS

Candidates	Targets* Probable			Targets Possible
Taiwan	PRC			
Israel	Egypt	Libya	Syria	USSR
Pakistan	India		Afghanistan	USSR
South Africa	Angola	Mozambique		USSR**
India	PRC	Pakistan		
Yugoslavia	USSR			
South Korea	North Korea	PRC	USSR	
Brazil	Argentina			
Argentina	Brazil			
Egypt	Israel	Libya		
Libya	Israel	Egypt		
West Germany	USSR			
Japan	USSR			

*A few candidates might conceivably *desire* the option of targeting the US, but none on this list are likely in the near-term to have suitable means of delivery (aside from clandestine insertion).

**Naval forces involved in local war.

than the United States in opposing proliferation. One obvious fact, for instance, is that none of the USSR's allies have obtained nuclear weapons, while two American allies have done so (of course the much more hierarchical nature of the Warsaw Pact accounts for this difference). One American global strategy that might reduce incentives of some nuclear candidates, such as South Korea or Taiwan, would be a reinvigoration of global containment of communism and reassertion of US strategic supremacy—a return to the world order of the 1950's. The desirability of such a grand strategy aside, given interests in relaxation of East-West tension, it is probably not possible. We no longer have the relative power or the absolute level of resources required to do so.

In any case, there is at least a latent mutuality of interest between the contending superpowers in cooperating for global containment of nuclear spread. How this interest might be pursued through more active joint measures, despite the competitive relationship between them, is uncertain. Equally unclear is how proliferation within some regions, if it occurs, will affect the nature and intensity of the larger strategic competition. The fear most often expressed in arms control circles is that nuclearization of regional conflicts would threaten to draw the superpowers into local conflagrations on opposing sides, and increase the risk of escalation to central strategic war. But there are at least two other possibilities. Either the superpowers might respond to local nuclearization by agreeing to stay out of such conflicts and let the proliferators stew in their own plutonium (containment by isolation), or they might agree to act together to resolve such conflicts or regulate the military imbalance that make them unstable (containment by condominium). Either of these two alternatives would be more difficult to contemplate

in cases where a new nuclear state allied with one superpower threatened a *non-nuclear* state allied with the other (perhaps Korea), or where a vulnerable nation that a superpower ally could not afford to abandon (such as Israel) acquired nuclear weapons to offset conventional threats. The areas where cooperative action would be most feasible are those where neither superpower perceives absolutely central interests of its own (perhaps South Asia). Therefore, given the complexity of world politics and the varying priorities of the great powers, cooperative action for nonproliferation will probably have to be selective, limited, tentative, and conditional.

Joint superpower action is much more feasible in relation to supply than it is to demand. Indeed the United States and USSR are already cooperating through the Nuclear Suppliers Group. Exceptions to this pattern are most likely where one of the suppliers perceives a political advantage to be gained by compromising on restraint. Before Indira Gandhi's ouster the Soviets, for instance, were more quickly forthcoming than the United States or Canada in selling heavy water to India, perhaps because of the desire to reinforce their entente (since cooled) with New Delhi. In addressing demand incentives, mutual interests in nonproliferation are filtered through commitments to third parties. In the Middle East the United States and USSR share an interest in avoiding crises that could catalyze confrontation between them (such as occurred in 1973), but interests diverge in regard to support of their respective clients and the competition for influence and diplomatic advantage. Perhaps the biggest problem in this instance is that pursuit of the *joint* interest in nonproliferation would require *unilateral* action by one power; because the initial threat to deploy an indigenous nuclear force in a region would come from *one* local country (rather than two antagonists simultaneously), effective counterpressure would have to come from that country's ally (in the Middle East that would be the United States versus Israel). The alternative to such unilateral pressure would be complementary threats from the other superpower to supply its client with nuclear weapons (for instance the Soviet Union to Syria) to counter those of the initial proliferator—a threat that would aggravate proliferation more than it would alleviate it.

The prospect of any explicit or broad-scale superpower condominium, though it might possibly have some attraction to the Soviet Union as long as strategic parity endures, contradicts American policy declarations. Even if the United States were to decide the priority of nonproliferation made acceptable a reversal of this stance despite its political costs vis-a-vis allies and interested third parties such as China—which is not probable—a move toward condominium could entail counterproductive effects for nonproliferation as well as beneficial ones. Those countries whose incentives for nuclear weapons derive from distrust of the reliability of the United States (or USSR) to protect their security and autonomy would have even more reason to seek an independent deterrent. To neutralize this incentive, the superpower condominium would have to be extremely coercive and interventionist, presenting sanctions so severe that they outweigh the security threats that underlie the incentive. So activist a policy, and a priority attached to nonproliferation high enough to provoke that amount of cooperation between the superpowers who have so many other competitive strategic interests, is very unlikely in the foreseeable future. The only circumstances that might make the possibility seem reasonable, at least to the United States, are extreme ones, such as a small nuclear war that jolts the great powers into subordinating everything else to the control of proliferation. In short, this means of *stopping* proliferation would probably only follow *further* proliferation.

Barring disaster, then, American-Soviet joint action against proliferation will probably continue in the area of retarding the diffusion of weapons-applicable nuclear facilities, and may proceed at a cautious pace and on an ad hoc basis in the area of controlling incentives in a few places where other political complications are not overwhelming. Cooperation for regulating the regional instabilities behind nuclear weapon incentives will not be systematic or comprehensive. There are, however, other forms of politico-military cooperation that might help nonproliferation. Some nuclear candidates—especially India—argue that sincere and meaningful nuclear arms reductions by the United States and USSR, fulfilling their commitments under Article VI of the NPT, would make it easier for nonnuclear states to abstain from acquiring nuclear forces themselves. I am skeptical of this view, but a majority of analysts believe it is valid.¹³

For those nations who fear nuclear attack by the United States or USSR, or who would seek nuclear weapons as a matter of principle, to assert their own equality of international status, an agreement on serious reductions in SALT III might dissuade them from a nuclear program. But unless US and Soviet nuclear inventories were reduced to negligible levels—which is virtually impossible—the argument of principle and the accusation of superpower discrimination would still apply, though it might be softened. Also, it is unclear that any likely proliferation candidates are seriously motivated by fear of nuclear attack by either superpower (although some may have legitimate fear of *conventional* military intervention or coercion). Moreover, pulling the superpowers' nuclear teeth would not erase the incentives of those countries who fear local adversaries or seek nuclear weapons for purposes of national grandeur or regional hegemony. Nevertheless, not all candidates' nuclear decisions will be made on the basis of cold, rational, strategic calculation, and the psychological benefits of reducing the profile of nuclear forces in the world as a whole might have a beneficial impact in some instances.

Some proliferation of nuclear weapons is inevitable, though of course the relevant issue is the rate and scope of the process. Rapid or widespread proliferation is not inevitable. If only one or two new states demonstrate nuclear weapons capability in the next dozen years, American policy should be considered moderately successful; if four or more do so, the policy should be considered a failure. There are a number of initiatives, including cooperation with the Soviet Union, that may keep the number low. Some of these initiatives are already underway. Others are not, either because they pose too many costs or countervailing disadvantages, or because they are not recognized as relevant by a consensus of policymakers. The present administration has a clear, forceful, and ambitious policy on the nonproliferation of weapons-applicable nuclear *technology*. The comprehensive and integrated policy that would deal with the nonproliferation of *weapons*, across the full spectrum of causes, is less clear. In part this is due simply to the complexity of the politico-military dimensions of the problem. Lack of clarity could be preferable, anyway, if clarity came from a false or simplistic codification of all the relevant security policies and produced adventurous and counterproductive initiatives. In terms of the relation of the nonproliferation issue to US-Soviet strategic interaction, it should at least be comforting that nonproliferation poses fewer conflicts of interest than most other problems. If there is any progress in US-Soviet accommodation, it should spill over into efforts to retard nuclear spread. On an issue as potentially conducive to despair as proliferation, that alone is grounds for limited optimism.

ENDNOTES

1. Charles Burton Marshall, "National Security: Thoughts on the Intangibles," in James Schlesinger, et al, *Defending America* (New York: Basic Books, 1977), pp. 81-82.
2. See Lewis A. Dunn, "Nuclear 'Gray Marketeering'," *International Security* 1 (Winter 1977): 109.
3. Convened in 1975 with Britain, France, the Federal Republic of Germany, USSR, Canada, and Japan. Membership has since expanded to include The Netherlands, Sweden, Switzerland, German Democratic Republic, Poland, Czechoslovakia, Italy, and Belgium.
4. *Nuclear Non-Proliferation Act of 1978, H.R. 8638*, p. 5; emphasis added. The passage cited states that the President shall "seek to ensure" such compliance in renegotiating cooperation agreements.
5. Graham Hovey, "Carter Orders Sale of Uranium to India for Power Facility," *New York Times*, 28 April 1978, p. A1; Edward Walsh, "Carter Backs Uranium Sale to Indian Plant," *Washington Post*, 28 April 1978, p. A3.
6. Joseph S. Nye, "Nonproliferation: A Long-Term Strategy," *Foreign Affairs* 56 (April 1978): 610-611. For a non-official review of the early Carter policy see Michael Brenner, "Carter's Non-Proliferation Strategy: Fuel Assurances and Energy Security," Working Paper, Center for Arms Control and International Studies, University of Pittsburgh, September 1977.
7. Karl Kaiser, "The Great Nuclear Debate: German-American Disagreements," *Foreign Policy* 30 (Spring 1978): 105.
8. One important official denies the insensitivity of the administration to the political and strategic precipitants of proliferation, but of the six elements of Carter's strategy that he lists, only one lies in that dimension. He also endorses the utility of *maintaining* current American security guarantees (which do not affect candidates not already covered), but rejects *new* commitments as infeasible. Nye, "Nonproliferation," pp. 609-610.
9. *Ibid.*, pp. 619-620.
10. Kaiser, "The Great Nuclear Debate," p. 87. There is some concern that the Non-proliferation Act may provoke an even greater crisis. France and Germany have questioned whether the Euratom agreement on fuel supply, which extends until 1995, can be annulled by congressional fiat, and some Americans worry that the new US law may prompt the Europeans to look to the USSR for alternate sources of enriched fuel. See Thomas O'Toole and Jim Hoagland, "Uranium Exports Quietly Approved Just Before Ban," *Washington Post*, 16 April 1978, and Michael Getler, "Bonn Warns U.S.: No More Jolts," *Washington Post*, 13 April 1978.
11. Nye, "Nonproliferation," pp. 606, 621.
12. *Ibid.*, p. 620.
13. See Richard K. Betts, "Paranoids, Pygmies, Pariahs, and Nonproliferation," *Foreign Policy* 26 (Spring 1977): 157-159.

**Nuclear Proliferation,
Essential Equivalence and
The US-USSR Strategic
Balance**

Lewis Dunn

Notwithstanding present nonproliferation efforts, interacting political and technical factors could produce increasingly widespread nuclear-weapon proliferation over the next decade. New patterns of conflict would be created and existing ones intensified in newly nuclearized regions.¹ However, of greater importance for this paper, such proliferation would adversely affect United States security interests, reducing United States freedom of action to support allies and friends abroad, posing direct and indirect threats to the continental United States (CONUS), and raising the prospect of superpower confrontations in local nuclear disputes.² Moreover, under certain conditions, increasingly widespread proliferation could directly or indirectly affect United States—and Soviet—strategic force requirements and, therefore, the requirements for maintaining a posture of essential equivalence vis-a-vis the Soviet Union. Consequently, superpower cooperation may be needed not only to constrain the risk of confrontation but also to manage the strategic balance spillovers. As for the overall United States response to further proliferation, attention should focus on both measures to reduce "proliferation momentum" likely to be generated by the next proliferators of the 1980's and others to manage the consequences of nuclearized regional conflict. Germane to both would be consideration of how the United States should respond to decisions by some of its allies or friends—many of whom rank high on lists of prospective proliferators—to "go nuclear."

REDUCED FREEDOM OF ACTION TO SUPPORT ALLIES OR FRIENDS

Within a more proliferated world, situations are likely to arise in which an ally or friend of the United States would be threatened by a new proliferator. For instance, in a newly nuclearized Middle East and Persian Gulf of the late 1980's, the United States might wish to come to the defense of an economically critical but nonnuclear Saudi Arabia threatened with nuclear blackmail, nuclear attack, or a nuclear-backed conventional attack from either Iran or Iraq—now armed with nuclear weapons. But local nuclearization could significantly reduce United States freedom of action to project force abroad into such a local conflict. It would at least change the considerations policy-makers would have to weigh before coming to the assistance of an ally or friend in a newly nuclearized region.³

More specifically, before locally committing air, naval, or ground forces, serious consideration would have to be given to suppressing any local nuclear threats to those

forces by a disarming first strike against the new proliferator. To do otherwise would run the possibly unacceptable risk of a nuclear attack on those intervention forces at a time when they might be quite vulnerable, e.g., during initial landings in support of this hypothetical ally. Beyond that, this risk of nuclear use against local United States assets would be heightened by the likely technical characteristics of many of these new proliferators' nuclear forces. In particular, poor command and control might facilitate unauthorized access to the new proliferator's rudimentary nuclear arsenal by more fanatic officers less hesitant to use one or more nuclear weapons against intervention forces. And, whatever might be the case in deterring a constituted government, threats of retaliation against such a group would probably go unheeded. Finally, even if the risk of a nuclear attack on local United States forces did not provoke a disarming strike prior to taking action in support of an ally in a newly nuclearized region, it nonetheless would be necessary to "work around" that threat militarily by changing tactics, operating procedures, and forces. That itself would constitute reduced freedom of action.

Turning to the political level, the threat of nuclear attack by a new proliferator against American intervention forces coming to the assistance of an ally or friend in a newly nuclearized region probably would change policymakers' calculations. Pressures not to get involved would become even stronger; the stakes needed to justify involvement higher. In fact, a historical precursor of such decreased political maneuverability exists. Among the reasons for President Kennedy's decision not to intervene militarily in Laos in 1961 were statements by the Joint Chiefs of Staff that, should China intervene in response, it probably would be necessary to use theater nuclear forces to meet that challenge.⁴ By so raising the spectre of local nuclear-weapon use, more widespread proliferation similarly would reduce political freedom of action.

For similar reasons, the ability or will of the United States to support a newly nuclear ally against a comparable or stronger nuclear opponent might be affected. Some may contend that this is a false issue because either the United States would have decoupled from this ally or friend before it acquired nuclear weapons—an action possibly triggering the decision to "go nuclear"—or would do so once the ally crossed the nuclear-weapon threshold. But that might not be the case. Residual ties even to allies losing credibility in the United States still might exist; other friends or allies might have been pressured to acquire nuclear weapons by events other than declining alliance credibility. If so, some combination of longer-term security interests, economic interests, assessment of the consequences for proliferation management of decoupling, and even in some cases longer-term nonproliferation calculations could counter an initial temptation to decouple. Acquisition of nuclear weapons by South Korea—given the consequences for Japan if complete decoupling after South Korean nuclearization led to a Korean peninsula blow-up involving even local use of nuclear weapons—or by Iran—"forced" to acquire nuclear weapons by an Iraqi program but still economically important to the United States—may be cases in point. If so, these just-noted problems of reduced freedom of action could occur if it became necessary to come to their support.

UNCONVENTIONAL NUCLEAR THREATS TO CONUS

Direct threats of nuclear attack on the continental United States by new proliferators or radical subnational groups able to acquire nuclear weapons within a more proliferated world cannot be precluded. However, at least in the 1980's, the most likely proliferators so motivated probably would be forced by geography and various technological limitations to rely on nonconventional modes of delivery.

To illustrate, were the Middle East overtly nuclearized in the late 1980's and should another war erupt and not end quickly, an Arab government might threaten anonymously to detonate a nuclear device in the United States unless resupply operations to Israel were stopped. Clearly that would be a high risk strategy. And to carry it out one or more nuclear weapons probably would have to be smuggled into the United States. Or, a new proliferator might seek to deter a nuclear strike against itself by the United States—whether in surrogate retaliation to its attack on a United States ally or to suppress its threat to United States local intervention forces. But it would need to rely on preplaced weapons clandestinely brought into the United States. Nevertheless, if able to clandestinely place nuclear weapons within the United States—or to deliver them in some other fashion—such a lesser nuclear power might exercise that desired counterdeterrence against the United States. Even simply the threat to have preplaced weapons within CONUS could make the United States think carefully about carrying out a retaliatory or disarming strike as part of a security guarantee to remaining nonnuclear-weapon states.⁵

Alternatively, a future radical "mini-state" in possession of nuclear weapons might seek to threaten CONUS for various reasons. The PLO, for one, already is a virtual state, controlling territory, administering to people, levying taxes, and practicing international politics. In a more proliferated world inadequate command and control over some new nuclear forces quite possibly could provide such a subnational group—or others—with a route to nuclear weapons. So, it might be added, would the growth of nuclear gray and black marketeering. Then, as in the preceding scenario, detonation of one or more nuclear weapons within American cities might be threatened in order to coerce United States policymakers, possibly deterring them from acting against that subnational group's interests.

Admittedly the preceding scenarios—as well as others involving comparable direct threats of attack on CONUS—depict plausible but improbable security threats. But, that in itself is an important conclusion since it points to a significant asymmetry between the respective positions of the United States and the Soviet Union in at least the early stages of increasingly more widespread proliferation. Unlike the United States, the Soviets in the 1980's could be confronted by new proliferators interested in and more readily capable of threatening Soviet territory with conventional means of delivery. Israel is the clearest case of several that come to mind: an Israeli nuclear threat to one or more Soviet cities might be thought to be useful for deterring some types of Soviet intervention in the Middle East, for deterring Soviet transfer of nuclear weapons to Arab countries, and could be mounted by nuclear-armed aircraft on one-way missions. Iran, South Africa, South Korea and eventually Japan and West Germany—should non-proliferation efforts collapse—also might seek to target the Soviets. And only with the emergence, if it occurs, of a nuclear-armed Japan perhaps hostile to the United States or with heightened technical capabilities permitting other than nonconventional threats to CONUS by lesser nuclear powers would that asymmetry begin to erode.⁶

AUGMENTED RISK OF SUPERPOWER CONFRONTATION

One final threat to United States security interests from more widespread proliferation is that of an escalating superpower confrontation triggered by their involvement in newly nuclearized regions.

More specifically, in an increasingly more proliferated world a range of pressures capable of sparking that confrontation would exist. These include: American and Soviet

reluctance not to support allies or friends as well as a reluctance to discontinue pursuit of their respective competitive interests even in these newly nuclearized regions; miscalculation; their lessened control over events; the greater number of flashpoints for involvement and confrontation; and possible efforts by a local new proliferator to trigger such a confrontation. Moreover, though counterpressures exist—not least of all both sides' concern about the danger of being dragged into local disputes and confrontation—they may not prove sufficient everywhere.

To elaborate, one precondition of a future Soviet-American confrontation in a more proliferated world, of course, would be their continued support for opposing parties in regional disputes. At present they are so committed to varying degrees in the Middle East, the Persian Gulf, South Asia, and the Korean Peninsula. More important, even though superpower disengagement, particularly by the United States, probably would be a key driving force of future proliferation, to reiterate a point made earlier, residual ties are likely to exist and some proliferation would occur independently of any prior shrinkage of those outside connections. Of equal importance, where they are tied to opposing parties, the superpowers are likely to be reluctant not to continue advancing their competitive interests. To decouple out of fear of confrontation would sacrifice past costs and future advantage to avoidance of a diffuse longer-term risk.

Within that structural framework of opposing superpower involvement, the danger of miscalculation heightens the risk of confrontation. Much as today, either side might miscalculate the other's perception of the stakes, how it would respond to given actions, its willingness to run risks and accept costs, and its control over its local ally or friend. Moreover, the risk of miscalculation might be augmented by the new uncertainties inherent in a regional nuclear crisis among new proliferators. The learning about the other superpower's responses and perceptions derived from past regional maneuvering, e.g., that of the October 1973 Middle East War, might not be fully transferable. Uncertainty about each other's perceptions, responses, and control also would be even greater in the uncharted environment following local use of one or more nuclear weapons.

As already argued, more widespread nuclear-weapon proliferation probably would reduce even more both superpowers' freedom of action in regional disputes. But that lessened influence, let alone control over events, in all probability would heighten the risk of confrontation where the two superpowers were pursuing competing policies. Without restrictions on prior commitments, the avoidance of blank checks to allies, and other means of putting some distance between themselves and their allies or friends, unexpected overinvolvement could result. In addition, the tempo of events of these regional confrontations or clashes itself probably would be increased in a more proliferated world, not least of all due to the likely presence in some cases of technically deficient and preemption-prone new nuclear forces. For that reason as well, care would have to be taken to avoid being overtaken by the force of fast-moving events and dragged into a confrontation.

The presence of new flashpoints also could exacerbate the risk of superpower confrontation. After any one of the following potential actions the Soviets or the United States could come under great pressure to "do something": a nuclear disarming attack by a new proliferator on one superpower's ally or client; a conventional disarming attack by such a proliferator; a disarming attack mounted by one superpower against a new proliferator allied or tied to the other; and local battlefield use of one or more nuclear weapons by a new proliferator against an ally or friend of one of the superpowers. Fur-

thermore, in each case, one superpower's reaction, even if reluctantly taken, could set in motion an upward spiral of response and counterresponse.

Finally, though somewhat improbable, one or another new proliferator might attempt to trigger a Soviet-American regional confrontation. To illustrate, in a nuclearized Middle East an anonymous detonation of a nuclear device in one Arab country by another during an intense crisis or low-level conflict might be viewed as a last-resort means of provoking Soviet intervention against Israel. It could be hoped, for instance, that anonymous detonation of an Iraqi bomb in Damascus might provoke the desired Soviet response. Or, self-inflicted but minor nuclear damage might be so utilized. Though it is admittedly difficult to envisage any country imposing such damage on itself, in an intense crisis to do so might be only a more extreme and refined variant of the current "cries of imminent attack" ploy. Further, assuming inadequate protection against unauthorized access to new nuclear forces, lower ranking military men might favor and launch an attempt to trigger a Soviet-American confrontation—again as a last resort to ward off certain imminent military defeat.

Thus, a range of pressures augmenting the risk of superpower confrontation exists in a more proliferated world. They suggest the importance of a superpower dialogue to manage that risk as well as other risks inherent in more widespread proliferation. But before turning to consider what such a dialogue might encompass, it is necessary to examine how more widespread proliferation could affect the Soviet-American strategic relationship. For the potential strategic balance spillovers of a more proliferated world also point to the desirability of enhanced superpower coordination.

STRATEGIC BALANCE SPILLOVERS OF MORE WIDESPREAD PROLIFERATION

Turning to those strategic balance spillovers—and thus the impact of local acquisition of nuclear weapons on the ability of the United States to maintain a posture of essential equivalence vis-a-vis the Soviet Union—two categories of potentially hostile countries are evident from the preceding discussion: the lesser nuclear powers and, in the more extreme scenarios in which Japan or West Germany might "go nuclear," these proto-superpowers themselves. Due to the likely characteristics of the respective nuclear forces these two sets of countries probably would possess, the respective implications for the central strategic balance would differ significantly in each case.

The nuclear arsenals of the lesser nuclear powers are likely to number in the dozens of warheads and rely on aircraft or short-range missiles for delivery. Moreover, with the exception of the asymmetry of greater Soviet vulnerability to conventional short-range threats that was noted earlier, those small nuclear forces probably would be unable to pose a serious direct military threat to the homelands of the respective superpowers. But they could threaten local allies or assets of the superpowers. What consequences might follow?

At first glance, it might appear that the threat emanating from such lesser nuclear powers would have virtually no impact on United States strategic posture. To begin, acquisition of that previously noted capability to disarm a local new proliferator threatening an ally or friend might be readily obtainable from existing offensive strategic or even tactical capabilities. For example, in mounting a disarming first strike against a new Persian Gulf proliferator's nuclear force comprised of twenty aircraft dispersed to half a dozen airfields, no question might ever arise of having to draw down offensive strategic

forces dedicated to SIOP or NATO missions. Similarly, carrying out a threat to retaliate against local use of nuclear weapons—whether on behalf of an ally or to enforce a general rule of no-first-use of nuclear weapons—might appear unlikely to create any pressures for augmented strategic forces lest ability to perform other missions be adversely affected. Finally, the types of damage-limiting capability the United States might seek to acquire, including perhaps surveillance against clandestine insertion, preparations for selective city evacuation, or even limited air defense preparations, probably would impact only marginally on the central strategic balance. Many of these new missions could be undertaken with existing capabilities, while what new capabilities were required most likely would exert only modest budgetary impact overall and would not raise questions in Soviet minds about United States intentions.

However, several caveats are required. On the one hand, rather than relying on high-yield weapons for retaliation, a capability for more selective retaliation with low-yield nuclear weapons could be desirable.⁷ That capability might be particularly appropriate for carrying out threats of surrogate tit-for-tat retaliation against local use of nuclear weapons. It also might be desirable for selective response against a new proliferator that had violated whatever minimum rules of the game might emerge—perhaps, for example, it had allowed a radical terrorist group to “steal” one of its nuclear weapons. For this mission highly accurate, extremely low-yield, or even nonnuclear warheads could be desirable. But acquiring such a capability might require at least some minimal coordination with the Soviet Union to minimize any potential side effects.

On the other hand, under some limited conditions, some of the previously delineated missions against either new proliferators' nuclear forces or in retaliation for their use of nuclear weapons could cut into other strategic offensive force requirements and provide a pressure for augmented SSBN force levels. Barring that upward pressure against the SALT II levels, they would at least argue against significant reductions.⁸ To elaborate, given the range constraints of existing United States land-based missile forces, it is not a foregone conclusion that ICBM's always could be used in disarming or retaliating against geographically distant new proliferators. The Minuteman II has an approximate range of 6,000-plus statute miles, Titan II a range of 6,300-plus miles, and the Minuteman III a range of 7,000-plus miles.⁹ However, the range to targets within the most likely new proliferators often may be more than 8,000—or in some cases even 9,000 miles—from CONUS missile bases.¹⁰ Manned bombers refueled in the air would have sufficient range. But tankage might not be available given other missions and, in any case, political constraints might prevent the United States from deploying its tankers to foreign bases and then using those tankers for this mission. That is, an allied country might balk at being the staging base for a nuclear strike on a new proliferator. Still yet another possibility would be to use carrier air for this mission. But both the problem of local air defenses, and also the desire for a more “surgical” strike, could rule it out. That would then point to reliance on the SSBN force for carrying out these missions against hostile new proliferators. However, because part of that force already is dedicated to non-SIOP missions, it is possible that dedicating even a very small fraction to this new role would draw down capabilities needed elsewhere. And that could be all the more so if in the 1980's the United States moves to a strategic “dyad” rather than a triad.¹¹ A more detailed assessment of this issue exceeds this paper's scope; the preceding does suggest, however, that even with lesser powers' nuclear forces, the question of strategic balance spillovers is not an open-and-shut one.

In turn, Soviet responses to the potential threats posed by those lesser nuclear forces in theory could affect indirectly the requirements for United States offensive and defensive strategic forces. In particular, would asymmetrical Soviet and United States vulnerability to attack by new proliferators lead to augmented Soviet air defense efforts? The answer appears to be no. In contrast to the United States, the Soviets probably would believe their existing air defenses to be adequate. A similar calculation probably would be made concerning Soviet strategic rocket forces, especially if geographical factors would permit relying on forces not targeted on the United States for missions directed against new proliferators. Thus, serious indirect implications for United States strategic posture are apparently unlikely in the instance of lesser new nuclear powers.

Taking up next the strategic balance implications of Japanese and West German acquisition of nuclear weapons,¹² it is probable that the resultant nuclear-weapon programs of each would be serious efforts. Consequently, West German and Japanese nuclear forces would probably rank between the level of sophistication and capability of the superpowers and that of existing medium nuclear powers such as France, the United Kingdom, and the People's Republic of China.¹³ Of equal importance for the United States is the fact that although it is unlikely that the West Germans would seek to target the United States as well as the Soviet Union, that may not be so for the Japanese. Depending on the causes of Japanese nuclearization, the domestic political context in which it had occurred, and the initial United States reaction, a nuclear-armed Japan could be hostile to the United States.¹⁴ For the United States, such proliferation probably would have both direct and indirect implications for its strategic posture vis-a-vis the Soviet Union.

To begin, should it occur, the emergence of a hostile nuclear-armed Japan targeting the United States could exert significant pressures for an augmented strategic offensive missile capability. Without that increase, and given the prior diversion of a small part of the force to other missions against threats from lesser nuclear powers, meeting the requirements of essential equivalence vis-a-vis the Soviets might be hindered. At the least, these pressures and the new uncertainties could undermine efforts to pursue far-reaching reductions in strategic force levels through a by-then SALT IV. Perhaps, also, simply the shock of adjustment to this new threat might make United States policymakers more suspicious of Soviet motives and actions and more cautious toward future agreements. And, each of two additional factors in turn could heighten the magnitude of any such upward pressure against strategic offensive force levels of the late 1980's: the possible (though perhaps less likely in light of recent developments) emergence at that time of a serious ICBM threat from the People's Republic of China to the United States, and prior significant Soviet-American strategic force reductions in a SALT III. Concomitantly, confronting a threat from a nuclear-armed Japan, advocacy and support within the United States for acquisition of a light area defense might be restimulated. That spill-over, however, is best considered in the context of the indirect consequences for United States strategic posture of Soviet responses to West German and Japanese nuclear-weapon acquisition.

Both West German and Japanese nuclear-weapon acquisition, perhaps for different reasons, might create comparable pressures in the Soviet Union for augmented strategic land- and sea-based offensive forces. Though Soviet geography would permit reliance on additional IRBM's to target West Germany, the political rationale of preserving its overall equality might cause it to desire to match any likely West German deployment of

nuclear-armed submarines. Similarly, matching Japanese submarine deployment, again perhaps for political but here also for military reasons, could be thought necessary. And the Soviet response to Japanese nuclearization in contrast with that of West Germany could include as well planned reliance on ICBM's. If so, the upward pressure on SALT II or III levels could be strong.¹⁵

Moreover, the Soviet's unilateral statement on the NATO allies' SLBM submarines— included among the "agreed interpretations" and "unilateral statements" which accompanied the SALT I interim agreement—is worth recalling here. That statement asserted—and the United States rejected—a Soviet right to corresponding increases in their missile submarines were the NATO allies to increase their submarines beyond the number operational or under construction on the date of signature of the agreement.¹⁶ Perhaps only a bargaining pretext, it nonetheless may have indicated residual Soviet concern about the magnitude of such non-United States strategic forces.

Alternatively, even more so within the Soviet Union than in the United States, strong pressures for deployment of a light ABM might emerge. The very fact of perceived Soviet "encirclement" by a ring of new proliferators—West Germany, Japan, Iran, and Israel, to name the most obvious—could be especially compelling psychologically, even if the lesser nuclear powers lacked access to missiles. If so, Soviet-American renegotiation of the 1972 ABM Treaty to permit mutual deployment of such light coverage to handle this level of threat and to assure each other about their systems' technical limitations most likely would become a serious policy question at this stage of more widespread proliferation. Whether or not to do so would depend on such factors as the technical capabilities of new technology ABM systems, the political consequences of so responding to these new threats, and the problems for the Soviet-American strategic relationship of limited, possibly ambiguous light ABM deployment.¹⁷

Thus, in a more proliferated world in which Japan and West Germany had acquired nuclear weapons, continued maintenance of an American strategic posture of essential equivalence vis-a-vis the Soviet Union could require augmented strategic offensive force levels to handle the additional missions and other requirements. Concomitantly, comparable pressures for augmentation, or at least against any additional reduction, could emerge within the Soviet Union. And, though much would depend, of course, on the particular nuclear force characteristics of these new proto-superpowers, both of the current superpowers also might begin to reassess the desirability of new damage-limiting systems directed against these two proto-superpowers. Consequently, existing strategic force agreements would have to be renegotiated to take account of these and any other supplementary new upward pressures—including possible superpower reaction to each other's responses—on the levels of SALT II. Moreover, whether the emergence of even a group of lesser nuclear powers could produce such upward pressures on the United States strategic force posture and the requirements of essential equivalence appears an open question. Depending on the interaction of the characteristics of United States strategic forces of the 1980's and the geopolitics of local nuclear threats, fulfilling those retaliatory and disarming missions against new proliferators described at the beginning of this paper could draw down forces needed for other missions. At the very least, it might call for some differently tailored capabilities. And in either case coordination with the Soviet Union to handle these strategic balance spillovers—as well as to reduce possible uncertainties that might arise about how to interpret each side's responses to more widespread proliferation generally—would be an important aspect of the United States response to a more proliferated world.¹⁸

RESPONSES TO FURTHER PROLIFERATION: TWO OBJECTIVES

Notwithstanding references within the preceding discussion to a more proliferated world, the scope and pace of future proliferation could vary significantly. More importantly, so would the problems and consequences for the United States and other countries. Thus, the world of perhaps ten or more additional, lesser power, nuclear-weapon states by 1995, which is assumed in much of the preceding analysis, clearly would differ in important ways from a proliferated world encompassing the nuclearization of Japan and West Germany as well as of many more lesser powers.

The policy implications of this distinction are of the utmost importance: depending on how the United States and others respond to the proliferation events possible within the early 1980's—e.g., new nuclear-weapon states, withdrawals from the Nonproliferation Treaty, safeguards violations, and perhaps use of nuclear weapons in a small-power nuclear exchange—the probability of even more widespread proliferation could be increased or decreased. Therefore, one aspect of United States response to further proliferation should focus directly on how best to reduce the proliferation momentum of these events. To look at it in another way, because initial past proliferation contained the seeds of even more proliferation—a proliferation chain beginning with the United States and then including the Soviet Union, Britain, France, and the People's Republic of China is readily identifiable—and the same dynamic process is to be expected in the future, it will be an important component of American proliferation policy to consider how the thrust to even more proliferation inherent in the emergence of additional proliferators can be short-circuited. At the same time, as argued in detail elsewhere,¹⁹ more widespread nuclear-weapon proliferation is likely to exacerbate local conflicts and does threaten to spill over to affect the global political order. Therefore, it also is important to identify and evaluate responses to such additional proliferation whose purpose would be to manage its local consequences and global repercussions. Table 1 identifies both types of responses.

However, a thorough delineation and discussion of the range of responses thereby encompassed exceed the scope of this brief paper. Instead, in order to raise some of the issues involved in thinking through both kinds of American responses to further proliferation, two questions implicit within the earlier discussions are examined briefly. First, how should the United States respond in the next decade when one of its allies or friends "goes nuclear"? Second, given the importance of coordinating Soviet-American strategic and other policy in a more proliferated world, what items might be included on the agenda of a hypothetical future Soviet-American proliferation dialogue? Each question is discussed in turn.

RESPONDING WHEN AN AMERICAN ALLY OR FRIEND "GOES NUCLEAR"

High on most lists of the prospective proliferators of the next decade are countries that presently are friends or even allies of the United States. This includes Argentina, Brazil, Egypt, Israel (overtly), Iran, South Korea, Taiwan, and Turkey. For reasons already outlined, residual or perhaps even stronger alliance or other ties still might exist when these countries launched overt nuclear-weapon programs. The character of the American response might significantly influence the scope and pace of further proliferation. What considerations need to be borne in mind in assessing how the United States should respond to limit the damage of such additional overt proliferation? ²⁰

Table 1

RESPONSES TO FURTHER PROLIFERATION OF NUCLEAR WEAPONS

A. Dampening Proliferation Momentum

1. Event-specific damage limiting responses to future dramatic proliferation events
2. Reaffirmation of existing security guarantees
3. Continued nuclear-exports constraints
4. Other well-known nonproliferation initiatives to reinforce constraints and decrease incentives

B. Constraining the Regional Consequences and Global Repercussions

1. Provision of technical assistance, e.g., on command, control, and communications, to new proliferators
2. Influencing new proliferators' strategic doctrine
3. Provision of security guarantees, including surrogate second strike capabilities, to nonnuclear countries
4. Transfer of defensive capabilities to threatened nonnuclear countries
5. Support for regional arms control agreements
6. Provision of strategic and tactical information to reduce uncertainties about the local balance of forces
7. Coordination of superpower regional involvement and domestic military procurement policies
8. Military support for nonnuclear allies
9. Acquisition of selective, precise disarming retaliatory capabilities against lesser nuclear forces
10. Augmented border surveillance capability
11. Augmented global intelligence capability
12. Acquisition of damage-limiting systems
13. Coordination of antiterrorist activity
14. Covert action capability against hostile new proliferators

Source: Derived from Lewis A. Dunn, *Changing Dimensions of Proliferation Policy, 1975-1995* (Hudson Institute: HI-2497/2-RR, February 15, 1977). Report prepared for US Arms Control and Disarmament Agency.

For two reasons, it is not unlikely that following an ally or friend's "going nuclear" there would be a strong temptation for the United States to decouple, severing any remaining security ties or commitments and leaving the new proliferator to fend for itself. In fact, sanctions such as those called for by the Nuclear Nonproliferation Act of 1978 also might be invoked.²¹

On the one hand, decoupling could appear a suitable and desirable means of "punishing" the new proliferator in order to make clear the costs of "going nuclear," especially to possible onlookers. Otherwise, other prospective proliferators might gain an enhanced conception of their own freedom of action. Moreover, if the new proliferator clearly had violated its international agreements, those pressures for "punitive decoupling" would be reinforced; decoupling now would be regarded as necessary to enforce and prevent the erosion of nonproliferation norms. Finally, a sense of betrayal or personal pique on the part of policymakers—much as existed in Canada after the Indian bang—could incline them to support punitive decoupling.

On the other hand, the inclination to decouple might be reinforced by prudential calculations. As noted above, the risks to the United States of continued involvement in a newly nuclearized region, of not severing ties with a new proliferator possibly engaged in a local dispute with another new proliferator or with that country's superpower patron, need not be trivial. Contrariwise, by what might be called "prudential decoupling," it might be thought possible for the United States to avoid being dragged into local disputes, to minimize indirect and direct threats to overseas bases and assets and to the continental United States, and to reduce the risk of superpower confrontation in a regional nuclear confrontation or clash.

Nevertheless, several factors would argue against either punitive or prudential decoupling. Though "making an example" of a new proliferator might serve near-term nonproliferation interests, it could adversely affect other important foreign policy interests. For example, complete decoupling from either a South Korea that had acquired nuclear weapons out of concern to ensure against the consequences of precisely that possibility or from an overtly nuclear-weaponized Israel could erode perceptions of United States reliability within Western Europe and Japan. That situation might be so—despite the case that could be made to justify such decoupling on nonproliferation grounds. Similarly, economic and political interests in the Persian Gulf might argue against either punitive or prudential decoupling from a newly nuclear Iran, particularly if Iran was perceived as having been "forced" to go nuclear in response to the nuclearization of either Iraq or the Indian subcontinent. Nor is it self-evident that punitive decoupling always would serve longer-term nonproliferation objectives. That could be painfully so, for example, should decoupling in the early 1980's from a newly nuclear South Korea lead to the eruption of conflict on the Korean peninsula and that in turn—as well could happen—trigger increased Japanese interest in nuclear-weapon acquisition. Equally so, rather than decoupling, a longer-term prudence might suggest the need for continued regional involvement in an attempt to check the more destabilizing local and global repercussions of more widespread proliferation. And that might entail not decoupling but rather the provision of assistance to new nuclear allies or friends of the sort discussed next.

More specifically, consideration might be given to measures for helping these new proliferators to develop more technically reliable and less conflict-prone nuclear forces. The United States could provide information and assistance on command and control systems and physical security measures to help reduce the risk of unauthorized access. That would directly reduce the risk of a local nuclear exchange or of access to nuclear weapons by subnational groups.²² Assistance on weapon safety also might be provided, again to help dampen a flashpoint for conflict. It would have to be recognized, however, that both types of assistance also would help the recipients to acquire more militarily reliable and effective nuclear forces, necessitating cautious provision of such assistance. Moreover, rather than decoupling from newly nuclear friends or allies—but being careful not to provide too much freedom of prior action—the United States might want to preserve existing security ties, whether still fairly strong or only residual. Doing so also could minimize a conflict flashpoint by helping to deter a preemptive attack on a newly nuclear country. Finally, in the possible case of eventual West German and Japanese acquisition of nuclear weapons, efforts might be made to integrate that nuclearization into a broader Western-oriented politico/military structure. And even assuming the prior erosion of the existing alliance network as a precondition for those countries' decisions, a residual set of ties on which to build still might exist.

Continued involvement with newly nuclear allies or friends, however, probably would necessitate discussions with the Soviet Union to reduce or control those previously examined pressures for a superpower confrontation. But such an exchange also could encompass consideration of other measures for coordinating Soviet-American cooperation and competition in an increasingly more proliferated world.

AGENDA FOR A FUTURE SOVIET-AMERICAN PROLIFERATION DIALOGUE

A future Soviet-American proliferation dialogue can build on and broaden growing cooperation between the superpowers to slow the spread of nuclear weapons. It also could seek to strengthen and elaborate the 1971 "Accidents Measures" agreement.²³ A range of issues might be included on its agenda.²⁴

In an effort to reduce the likelihood that miscalculations would trigger a superpower confrontation in a newly nuclearized region, one element of that dialogue could be an exchange of views concerning each side's definition of its objectives, perceived stakes, and possible options in each of several specific newly nuclearized regions. Disagreements about which potential actions and responses one or the other side would find unacceptable might be identified and illuminated. Particular attention might be focused on the possible consequences of and responses to the first use of nuclear weapons by a new proliferator. Even granting that there would be an unavoidable amount of posturing in such discussions, each side's understanding of the other's position could be improved. In any case, simply preparing for such an exchange of views could be especially helpful in forcing each side to clarify its *own* position and think through these issues.

Also as a means of reducing augmented pressures for superpower confrontation, specific steps could be identified that each side would agree *not* to take for a specified period of time (one hour, one day) after a nuclear weapon had been detonated in a newly nuclearized region. The list might include not making provocative public statements of support for the country in which the weapon had been detonated, perhaps even avoiding private promises of assistance to that country; not moving to a higher alert status; not responding with instant retaliation or rapid transfer of means for surrogate retaliation; not engaging in a local show of force, and so on. These and other political and military actions could be avoided initially in an attempt to slow the tempo of events, to reduce the chances of unexpected entanglement, to hinder the escalation of the stakes via investment of superpower prestige, and to create a firebreak to widening conflict.

Conversely, building on the availability of the "hot line" and on the "Accident Measures" agreement, how the superpowers best might keep each other informed during a regional confrontation of new proliferators also might be discussed. Even only a reaffirmation of a commitment to exchange rapidly any information and intelligence on events in a swiftly moving local nuclear confrontation or clash could be valuable. Moreover, within the framework of discussing crisis-information exchanges, consideration might be given to how information available to the superpowers could be convincingly transferred to a new proliferator where that transfer was in both superpowers' interests and where it might serve a conflict-dampening role.²⁵

Such a superpower proliferation dialogue also could take up the desirability and/or feasibility of joint preventive measures to deal with the proximate causes and more im-

mediate triggers to regional nuclear conflict and the global repercussions of local proliferation. To reiterate, among those causes and triggers might well be inadequate command and control over new nuclear forces, insufficient accident-proofing of nuclear weapons, and other technical deficiencies of new nuclear forces. Thus, joint efforts to reduce those forces' "propensity to war" along the unilateral lines already noted might be considered. Or, granting a shared Soviet and American interest in preventing access to nuclear weapons—most likely by theft but possibly by black market purchase of fissile material and technical assistance—by terrorists or other subnational groups, identification of joint measures for dealing with that problem also might be an agenda item.

Possible Soviet-American provision of security guarantees to nonnuclear-weapon states confronting new proliferators also could be discussed. So might be a joint effort to proscribe the first use of nuclear weapons by new proliferators, perhaps by threatening tit-for-tat surrogate retaliation. Barring agreement along these lines, attention might focus on what measures either side would take in response to the other's unilateral provision of such a guarantee against a new proliferator's first use of nuclear weapons.

Further, although more formalistic and perhaps unrealizable, possible Soviet-American rules of engagement for a more proliferated world, rules designed to constrain the risks of their continuing competition in newly nuclearized regions, might warrant discussion. For example, a rule of last-resort-only intervention would permit intervention in a local nuclear dispute only if the survival of a nuclearized ally, friend, or client were at stake. Thus, threats of retaliation to prevent that country's complete dismemberment would be permissible; otherwise, short of such threats to a newly nuclear ally or client's survival, both sides would abstain. Or, a rule of post-first-use decoupling might be adopted. In this case, once either side's ally had used nuclear weapons, both would decouple and let the locals "slug it out." And, that threat of joint tit-for-tat surrogate retaliation noted above is itself a rule of engagement, one clearly running counter to that of post-first-use decoupling. And, though such rules of engagement could be universal, they also might be applied selectively to different regions.

Talk of superpower rules of engagement in a more proliferated world is, admittedly, highly theoretical. Nonetheless, these or comparable rules could become a subject for serious discussion, if not negotiation, following one or more dramatic proliferation shocks, e.g., a small-power nuclear war or a near-miss confrontation in a local nuclearized dispute. For after such a shock, the superpowers quite possibly would be more willing to emphasize the cooperative rather than the competitive aspects of their relationship. In fact, consideration of each of the preceding agenda items of a Soviet-American dialogue could take on a different character after such a shock; what appears "unthinkable" now might then appear a necessary if reluctantly taken response to grave danger.

Finally, the agenda of this proliferation dialogue could encompass measures and agreements to handle the potential strategic balance spillovers of local nuclear-weapon acquisition. These measures might range from mutually agreed on and understood marginal adjustments of force posture levels, basing, and operating procedures to possibly even negotiated joint deployment of light ABM systems. The particular issues raised would depend on the dimensions of the eventual local nuclear threat.

During the next decade, additional nuclear-weapon proliferation may occur, resulting in the nuclearization of at least some regional rivalries and conflicts. That

proliferation may adversely affect United States security interests and spill over to impact on the central strategic balance. Concomitantly, it would force the United States to respond to acquisition of nuclear weapons by its current friends or allies while quite possibly creating new requirements for coordination of the Soviet-American strategic relationship. It is not too soon to begin considering aspects of both.

ENDNOTES

1. For elaboration see Lewis A. Dunn, *Life in a Proliferating World* (forthcoming).
2. Increasingly more widespread nuclear-weapon proliferation, of course, would affect a range of United States political, military, diplomatic, economic, and domestic interests. The following discussion focuses only on its impact on security interests.
3. Deterrence of such threats to United States allies or friends confronting new proliferators—and its partial limitations—is discussed below.
4. Seyom Brown, *The Faces of Power* (New York: Columbia University Press, 1968), p. 233.
5. Possible security guarantees or guarantees of surrogate retaliation to nonnuclear weapon states threatened by new proliferators are discussed, *inter alia*, in Richard L. Garwin, "Reducing Dependence on Nuclear Weapons: A Second Nuclear Regime," in *Nuclear Weapons and World Politics*, David G. Gompert, et al, (New York: McGraw-Hill Book Company, 1977), pp. 130-132; Herman Kahn, "Nuclear Proliferation and Rules of Retaliation," *Yale Law Journal* 76 (November 1977): 82-87; Lewis A. Dunn, *Changing Dimensions of Proliferation Policy, 1975-1995* (Hudson Institute, HII-2497/2-RR, February 15, 1977), pp. 89-96, 104-106.
6. For example, this asymmetry might be reduced if the level of technical sophistication of new proliferators allowed them to build small enough nuclear warheads for delivery by conventional torpedo and submarine. Both superpowers have many coastal cities which could be vulnerable.
7. Richard Garwin, for example, has proposed that the United States and the Soviet Union, at some stage, might wish to acquire a force of 100 small ICBM's with warheads of selectable yield of 10, 30, and 100 kilotons. And if they replaced 100 larger ICBM's under the SALT II ceiling, their acquisition actually could have, he notes, a downward impact on superpower strategic force levels. As discussed below, however, this assumes that the range of ICBM's would be sufficient in all cases to handle the antiproliferator disarming or retaliatory mission. Garwin, "Reducing Dependence on Nuclear Weapons," p. 132. Also see Dunn, "Changing Dimensions," pp. 113-114.
8. The need to consider seriously the possibility that even in the case of lesser nuclear forces some strategic balance spillovers still might exist—depending on the specific characteristics of those new nuclear forces and of the United States strategic posture of the 1980's—was suggested to me by my colleague, William Schneider, Jr.
9. Colin S. Gray, *The Future of Land-Based Missile Forces*, Adelphi Paper No. 140 (London: International Institute for Strategic Studies, 1977), p. 32.
10. As illustrative points of reference, approximate direct air distances from Bismarck, North Dakota, to the following cities in prospective proliferator countries are as follows: 6,000-plus—Buenos Aires, Rio de Janeiro; 7,000-plus—Cairo, Tehran; 8,000-plus—

Karachi; 9,000-plus—Calcutta; 10,000-plus—Johannesburg.

11. It may be noted in passing that requirements for this anti-new-proliferator mission also intersect with the question of future SALT restrictions on cruise missile deployment: one way to disarm a hostile new proliferator or to retaliate for local nuclear use would be with cruise missiles deployed on attack submarines.

12. Space precludes a thorough discussion of the domestic and international conditions which could produce decisions by these two countries to acquire nuclear weapons in the late 1980's or early 1990's. Suffice it to state that such potential conditions—including, for example, an erosion of United States alliance credibility, inadequate United States responses to possible South Korean and Taiwanese nuclear-weapon acquisition in the early 1980's, and a potential future American crisis defeat—can be identified. See Dunn, *Life in a Proliferating World*, Chapter 3; William H. Overholt, "Nuclear Proliferation in Eastern Asia" in *Asia's Nuclear Future*, ed. William H. Overholt (Boulder, Colorado: Westview Press, 1977), pp. 149-157; Henry S. Rowen, "Japan and the Future Balance in Asia," *Orbis*, Summer 1977, pp. 203-206.

13. For a discussion of alternative Japanese nuclear options, see John E. Endicott, *Japan's Nuclear Options* (New York: Praeger, 1975), pp. 168-233.

14. Overholt, "Nuclear Proliferation," pp. 154-155.

15. Left aside here is the additional question of how emergence of a Japanese nuclear-weapon program could affect PRC calculations and how any PRC response might in turn influence the Soviet Union and then the United States.

16. US Arms Control and Disarmament Agency, *Arms Control and Disarmament Agreements*, 1977 Edition, pp. 146-147.

17. Some of the possible pitfalls of such deployment are noted in Garwin, "Reducing Dependence on Nuclear Weapons," pp. 102-104.

18. As of now, however, it would be important to ensure that Soviet-American coordination to deal with the spillovers of lesser nuclear forces did not contribute to an erosion of United States alliances with NATO and Japan, thereby contributing to proliferation pressures. And, assuming West German and Japanese nuclearization, it then would be necessary to seek to minimize the likely tension between efforts to manage these strategic balance spillovers and other efforts to integrate those two countries' nuclear forces into broader NATO, Western European, or US-Japanese structures.

19. Dunn, *Life in a Proliferating World*, Chapters 4 and 5.

20. The related question that this paper deliberately sets aside is, "How should the United States respond to a covert nuclear-weapon program of an ally or friend?"

21. For example, that act would cut off supplies of nuclear fuel to a country detonating a nuclear explosive device.

22. For elaboration see Lewis A. Dunn, "Military Politics, Nuclear Proliferation, and the Nuclear Coup d'Etat," *Journal of Strategic Studies* (forthcoming).

23. On this agreement, whose stated purpose was to reduce the risk of the outbreak of nuclear war between the superpowers, see *Arms Control and Disarmament Agreements*, pp. 104-105.

24. As already noted, such a bilateral approach could have adverse side effects on United States relations with its major allies. This paper assumes for purposes of argu-

ment both that those side effects probably would be less than the possible costs of attempting to discuss these issues in a multilateral context and that some of these issues would require a bilateral format for successful resolution.

25. This assumes that neither superpower would see its interests better served by not providing such conflict-dampening information. It also assumes that if provided, it would be sufficiently credible. That the first assumption might be open to debate was illustrated before the 1967 Middle East War. At that time erroneous Soviet statements to the Syrians about aggressive Israeli troop dispositions fueled the crisis buildup. See Theodore Draper, *Israel and World Politics* (New York: Viking Compass, 1968), pp. 52-58.

PANEL 4

Economic Resources and the International Strategic Balance

An analysis of the international economic environment in terms of the elements of that environment which affect the broader strategic relationships between East and West. An assessment of possible threats to US and Western economic superiority posed by North-South problems and by other specific international economic issues. An examination of the Soviet potential to alter the international economic balance and the non-economic factors suggested by such potential.

Chairman

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Economic Resources and the International Strategic Balance

Chairman's Plenary Summary Session

Timothy W. Stanley

Good morning. Our panel is Panel 4 on Economic Resources and the International Strategic Balance.

We began with a reminder that in recent times the famous West Point text, *The Economics of National Security*, really should be rewritten and have its title in reverse order so it would come out *The National Security of Economics*. We, therefore, had no trouble answering in the affirmative the questions posed in the syllabus: Should a definition of the international strategic balance be limited to the military sector alone, or should it include the economic? Are estimates of essential equivalence incomplete without reference to the economic balance? As I say, we answered those easily in the affirmative. We even agreed that future conferences, noting that this one had five panels—three military, one domestic, and one economic—might well over time come to have three economic and only one military.

So, having agreed that economics is indeed relevant to and impacts on national security, from there on we had trouble. I found the problem a little like the horizon: the closer you get to it the farther away it recedes.

We certainly encountered a problem of definition. Many of you in this room will remember a university, which shall be nameless, which once was given a large grant of money for some national security studies. I think it took them 7 or 8 years, if indeed they ever have solved it, as to how to define national security. As one of the people who was asked to come out and talk over with them what they might do with this money, I found that the history department naturally thought that our national security would be enhanced by a further study of history. The Soviets had recently put up Sputnik and the science and technology people thought that was where security lay. But I quit when the chief of the music department told me that he thought all the emphasis on science and technology and military history was going to destroy our cultural values, and what was national security if we couldn't preserve that, and would I please vote to bring a hundred of the world's leading violinists to the university. That's not apocryphal, either.

I think our discussion was somewhat like that. I say this in no way to denigrate the excellent papers that we had. There were two commissioned papers, by Doctors Nathan and Oliver and by Allan Goodman, respectively. I think their end-line conclusion was vaguely reassuring. So indeed were other papers contributed by John Hardt and by Walt Rostow. But the reasons for that reassurance might surprise you.

I never could find a set of phrases that commanded the full agreement of our panel, so I hope they will forgive me if I coin one or two of my own.

There was a kind of neo-Spenglerian quality to the discussion which had indeed both bad news and good news. The bad is that the West, by which we meant, of course, North America, Europe, and Japan, faces very large problems indeed. I think there was conceded to be a high probability of a lull growth track, probably in terms of overall GNP, certainly relative to recent trends, but almost certainly so in terms of levels of disposable personal income with all of the sociopolitical problems that that is easily seen to pose.

We saw a world of generalized power diffusion, of what were described as "horrendous challenges of meeting the energy and the inflation crises simultaneously." We noted challenges to the legitimacy of central authorities and, in short, problems of "governance."

Some of us questioned the ability of the United States to articulate and follow a coherent international strategy both within the United States and with our allies.

Now for the good news. The Russian problem is just as bad, if not worse. During the eighties we expected that a combination of demographic problems, resource constraints, and a generational change in leadership would force the Soviet planners into some very hard choices. Dr. Hardt's paper termed this "the distinction between storming," by which he and the Russians mean a priority concentration of material, capital (including foreign exchange), and human and managerial resources, "and deferral," obviously meaning a relative lack of the foregoing.

We stole Walt Rostow from Panel 5 and he argued persuasively that by contrast, the West could storm some of its own problems, such as energy, and by analogy, priority allocation of capital, given the excess capacity that we have. However, whether we would do so was left unresolved and with, I think, some overtones of pessimism when we didn't have Walt there to cheer us on.

The Russian choices and their institutional framework will be more complex than simply military versus civilian consumption, but they will revolve around modes of modernization—the future structures of the economy as a whole. The net effect, we think, would be to limit the Soviet ability to exploit Western vulnerabilities, a point which was made quite explicit in the detailed case studies in the paper by Nathan and Oliver.

Allan Goodman's analysis of the threat from the Third World certainly brought out in impressive detail all of the major North-South issues, stressing particularly the "North" potential resources, trade, oil, and petrodollar vulnerabilities—but I think he concluded that perhaps they were overshadowed in significance by an erosion of Western institutions and influence in the international environment and by the very difficulties which the panel was having in coming to grips with the strategic implications of economics.

The counterpoint to this, amplified both in the discussion and in the Nathan and Oliver paper, was that "Because they have slipped from American control does not mean that events work to our disadvantage, nor are they out of control."

This led the chairman to suggest that perhaps the world had entered a phase which could be characterized as "competitive impotence." Others didn't like that terminology, but I exercise the chairman's prerogative to stick to it.

I think there was a consensus that in that kind of a competition, the inherent flexibility and economic and technological advantages of the West made the competition asymmetrical in our favor for at least the medium term. But I don't think one could make that firm conclusion, given the limitations on the usability of economic power—a point that was developed by one or two members of the panel. You are all familiar with the limitations on the actual employability and utility of military power; we are beginning to find that economic power has similar limitations. So we did *not* feel that we could offset through economic means any imbalances in other elements of the overall equation. In other words, if Panels 1 and 2 were counting on 4 to solve their problem, they were relying on a rather weak reed!

Some of us felt that with OECD's annual oil payments to OPEC exceeding the current order of magnitude of NATO's defense spending—that is, on NATO-related forces—there was quite enough of a threat in the present financial and embargo capabilities, plus the intentions of unknown future leadership, from that quarter alone to keep policy planners busy well into the future.

I do want to add a footnote here. It is kind of a sidelight, but I think it is an interesting point. We didn't have enough time to really get down to discuss cases (as some of the other panels obviously did) in terms of threats from the Third World or East-West exploitation of their mutual vulnerability, but we did come to the proposition that Mexico and its population explosion and the US-bound fallout pattern, if I may call it that, from that explosion was likely to pose very far-reaching challenges to our international economic statesmanship—for example, in providing the capital, technology, and economic cooperation to keep Mexican employment viable at home. The question was very seriously put, and not challenged, as to whether border control might not become a very vital Defense Department mission of the future, especially so if this economic challenge could not be met.

Panel 4 then tried to examine some of the East-West symmetries and asymmetries in terms of specific points of leverage or linkages. Again, I was surprised by the apparent meeting ground of two propositions—on the one hand that the Soviets would not find it easy or cost-effective to exploit the West's vulnerabilities and that on the other the degree of Soviet behavior modification that we could expect from exploiting their vulnerabilities, whether in terms of economics, technologies, capital, or even human rights (although that was not expressly discussed) represented limited leverage. We thought it was more limited the more it was exploited in public as distinguished from private, diplomatic communications.

The panel took only one informal straw vote, but its results, I think, confirmed the degree of consensus on the leverage issue and have some implications for current US policy dilemmas. The question came up specifically (and I want to make this clear) in the context of US policy with regard to Soviet energy and raw materials development and should not be further extended to all trade and economic issues, for there certainly was a substantial feeling in the panel that in rare (and I emphasize that) and selected issues, US economic leverage might be important. So one does not want to broaden this into a general principle. Nevertheless, the panel felt that the benefits of denial did not outweigh the benefits of potential gains in the world supply of energy and other resources and in particular in reducing the degree to which the Soviet Union would need to become an additional element of demand in that equation.

Our straw vote was between three policy options: the first was to actively promote US capital, technology, and assistance to Russian resource development, by which we meant to encourage it by public policy, but not necessarily by US public funds; the second course was to permit the market to make those kinds of judgments without official endorsement or hindrance; the third was to try to prohibit—that is, to use US policy tools at least to discourage, if not prevent, US involvement.

The Government members of our panel, of course, did not vote, but the citizens' jury, which, by coincidence, was 12, voted as follows: there were only two votes for the option of prohibiting; there were three for the option of promoting; and there were seven for the middle option of permitting, again the thought being that this was probably, on balance, a net contribution to the world energy problem and, in any case, that US unilateral controls would not be that effective over time.

I want to come last to the question of some structural points. I think the difficulty that the panel had in defining the problem is symptomatic, because it became clear in our discussions that the US Government is not really much better prepared or organized than was the panel to deal with the interaction of economics and security.

The Defense Department was described as "uninvolved" by some, by others as apparently "uninterested," even where its own interests, at least as described by historic standards, were involved. Defense was described as "not participating" in the interagency study of nonfuel minerals, natural resources being simply one of many cases of the impact of economics on security—presumably on the assumption that its interests were being taken care of by the strategic stockpile.

Neither the Defense Department nor the executive branch, it was pointed out, currently has any real mechanism for analyzing the effects of shifts in international trade and investment patterns or, for that matter, of environmental or tax or other regulations on defense mobilization or defense technology capabilities. Its voice in shipping and air transportation issues is likewise muted.

Objection was voiced to this on the ground that such concerns tended to imply a rejection of the defense implications of interdependence; but I think an effective rebuttal was made that one could only weigh those two sets of values if they were at least analyzed, and to do so required some mechanism for analysis.

The panel was also reluctant to formulate organizational recommendations to the administration. Many of us had served in different administrations and recognized that each one necessarily had its own style. Moreover, some of us felt there were some areas in which the ideal government stance was "not to do something but just stand there" and let the economic forces pursue their own way.

It was noted, however, that there is no longer a CIEP (Council on International Economic Policy); there is no longer an Office of Emergency Preparedness. Problems tend to be looked at on an ad hoc basis. The interagency nonfuel mineral study that one participant described, even though it was preceded by a national commission study, was going to take 2 1/2 years from recognition of the problem to final action recommendations by this very elaborate ad hoc mechanism that had been created.

The upshot of all this, I believe, was a consensus that the problems our panel was trying to address needed more definition and their structural implications needed more systematic study. So, as I said earlier, we were groping toward some larger concept, and one of them was a larger concept of national security in the modern world environment.

Just to illustrate the point, one panelist suggested that such an extended national security budget might well be double that of the present Defense Department; but, Dave [Secretary McGiffert], don't get your hopes up because he also pointed out that a total security budget would involve aid, would involve critical resource diversification, would involve private sector investment, tax, and other incentives as well as many other programs.

I think our recommendation (the only one we really could agree on at the end) was that future conferences might well include a panel, or at least a paper, on the organizational and structural implications of the interaction between economics and security. Our conclusions highlighted the limitations of economic leverage, particularly in the East-West area, but they did bring up some of its potential for use in the North-South dimension.

In West-West terms—that is, the inter-Alliance relations—there was indeed an impression on the part of some panelists of impending doom if we fail to solve our pressing political, economic, and energy objectives. But the panel also reflected a little more reassuring point of view at the end. Although we avoided the term until literally the eleventh hour, we agreed that we would probably muddle through, and between East and West, we felt it was the West who was the better muddler.

I can't close, however, without expressing my own dissatisfaction with that view. We also may *not* "just muddle through." The consequences of not doing so are very far-reaching, it seems to me, for the future of our domestic political tranquility and all three axes of our external relationships. My own conclusion is that if war has (as the saying goes) become too important to be left to the generals, economics has become far too important to be left to the economists.

I told Dave McGiffert that I would try to put some good news in my summary. I don't think I've come to it, and I would just like to conclude by saying that I found this morning enlightening, stimulating, but very depressing. I see people losing confidence in the ability of SALT to make a meaningful impact; questions about the erosion of our strategic deterrent, and the applicability of other branches of the deterrent; questions about our ability to deploy forces and our will to deploy forces; and now this economic sense of competitive impotence.

I hope next year, Bob [General Gard], you'll get a panel charged up to be optimistic and say, "Let's not throw in the towel and say that proliferation is coming and the deterrent is going." Let's see what they could do if they were charged to develop a list of affirmative action principles, because if all of the pessimism, that I admit I have probably more caricatured rather than characterized, comes to pass, then we're in much worse shape than we need to be.

Thank you.

**Economic Resources and
the International Strategic
Balance**

Rapporteur's Report

Dr. John N. Ellison

THEMES FOR POLICY FORMULATION

During its deliberations, Panel 4 addressed the general theme of the economic dimension of US policy as it relates to the international strategic balance and national security. The panel analyzed the international economic climate in terms of the major factors contributing to the environment for US international economic policy formulation and implementation. Also, the panel assessed economic dimensions affecting relationships between the East and West, and examined the potential impact of North-South economic developments on Western industrial superiority.

The panel further probed the potentiality for alterations in the world economic balance stemming from potential actions on the part of the Soviet Union and its allies in terms of economic and noneconomic policy initiatives which might significantly alter East-West and North-South economic relationships. Throughout its deliberations the panel experienced difficulty in structuring its discussions to systematically determine the critical issues affecting strategic economic balances. Specifically, there was a wide range of opinion concerning the legitimacy of employing economic instruments in pursuit of national security objectives.

Further, conflicting viewpoints as to the advocacy of a laissez faire approach to international economic processes vis-a-vis a centrally directed approach in order to enhance the position of the Western industrialized societies prevented the development of a consensus with respect to the proper US policy stance. Notwithstanding these differences of perspective, the panel was unanimous in its view that national security and economic processes are intertwined and simultaneously should be considered when formulating broad national strategy.

The business of the panel was conducted in the following sequential manner. Following a general statement and some discussion of major themes relating to strategic economics, Mr. Allan E. Goodman, Central Intelligence Agency, presented a paper entitled "The Threat from the Third World: Mounting Challenge to US and Western Economic Superiority." This paper triggered a vigorous discussion which centered on the question of the degree to which the economic and diplomatic power of key LDC's (lesser developed countries) might threaten the US and Western economic superiority during the near-term future.

Immediately following the discussion of the Goodman paper, the panel turned to a consideration of a supplementary paper by Dr. John E. Hardt, Senior Specialist in Soviet Economics, Congressional Research Service, entitled "Military or Economic Superpower: A Soviet Choice."* This contribution provided the panel with a provocative view of the resource choices ahead for the Soviet leadership in the next 2 decades. The panel thoroughly examined Dr. Hardt's thesis that many contemporary challenges in the economic sphere emanating from the Soviet Union would be ameliorated in the future due to resource constraints. He further posited that an alteration in the priority given to domestic economic objectives in support of modernization is emerging as a Soviet imperative.

At this point in the deliberations, it became evident that there was a panel consensus that the economic community should give more attention to international relations and concomitant issues which affect national economic security.

Dr. W. W. Rostow visited Panel 4 from another panel and led a discussion on the US-Soviet economic problem. Dr. Rostow made the point that although it is difficult to predict the economic situation in the USSR, the Soviets and their view of the Western world must be considered in formulating US economic strategy. He further underscored the view that economic warfare is not a very encouraging prospect. But one must keep in mind that the USSR view of the external world is one in which there are built-in pressures. It follows that the USSR has maintained "a correlation of resources" philosophy, which holds that although there may be no particular valid predictions of economic policy, they still must "try harder" in not only their assessments, but in practice as well. Certainly, since 1955, the Soviets have been game-playing in the Middle East with little return for their investment. The question then arises that there are great problems relating to economics and strategy with relation to the West; and there is general agreement now on the loss of institutional legitimacy even in Europe.

Professor Rostow contended that the energy problem is not that difficult to resolve if we, in the Western World, are serious about it. We can begin reducing the amount of imports. In essence he expressed the feeling that a three-point strategy could resolve the so-called energy crisis:

1. Get a price for energy—a direct price. This would result in windfall profits which could be taxed and the proceeds from the excess profits tax could be plowed back into the system.
2. Develop a method for settling the problem of environmental standards and thereby dispose of such problems as the Baltimore Canyon issue which has been before the Supreme Court twice within the past 2 years.
3. Accelerate the development of post-1985 technologies including those needed to exploit coal, shale, and synthetics. Planners should recognize that these alternatives are generally situated in the Midwest of the United States and, in the case of shale, contain more hydrocarbons than the Middle East reserves.

Professor Rostow expressed the belief that by implementing these three strategies, the US economy will grow sufficiently and the investment gap will close. Also, as a consequence, the economy in the Northeastern part of the United States should greatly expand, and the unemployment problem could be resolved. Essentially, what needs to be

*Prepared for *The Soviet Threat: Myth or Reality*, Proceedings of the Academy of Political Science, Columbia University, 1978.

done is to face up to the degenerative problems which currently exist. Professor Rostow concluded that the failure to deal with the dual problems of energy and inflation will continue to produce a political fragmentation and erosion of the West and its global influence.

Professor Rostow also briefly discussed the problem of the North-South Axis and the impasse which has occurred in more recent negotiations. The world is so structured, he contends, that it does not operate effectively without US leadership. By contrast, Europe is too fragmented; the Soviets are too inhibited; and the Japanese are too vulnerable to provide the necessary leadership. Essentially the North-South partnership "got off the track" in 1973 and 1974, when OPEC showed the richer nations of the North that it could demonstrate economic power.

In resolving this particular problem, long-term vision is needed. The mood of the Congress must change, and the President should recommend dropping the well-digger's tax, and push for an excess profits tax, as well as accelerating the deregulation of natural gas.

Following Dr. Rostow's presentation, Dr. Stanley then presented a short discussion on the interrelationship among OECD, OPEC, and the LDC's. Essentially this discussion focused upon the structural imbalance between these three principal elements: OECD has a surplus of capacity and a shortfall in dollars; the LDC's have no capacity and no dollars; and OPEC has petrodollars and capacity. A pattern or flow in terms of oil, goods and services, and capital surplus results between all three principals, and this pattern is counterproductive. Thus, the basic imbalances in the current pattern must be addressed in terms of altering existing flows in order to evolve a more viable economic structure which balances needs with capabilities. The panel discussed at some length various approaches to resolving the current dilemma.

Building on these perceptions of LDC-developed industrial society relationships, Professors James Nathan and James Oliver, Department of Political Science, University of Delaware, presented a paper entitled "Is Essential Equivalence Extendable? The Possibilities of and Prospects for a Soviet Strategic Threat to US and Western Economic Superiority." The central themes of the paper addressed the meaning and exercise of power in a world context, the environmental influences related to interdependence, and the relative power positions of the United States and the Soviet Union within the global economic context.

Following this presentation the panel discussed implications of the perception that the United States is experiencing a growing sense of nondirection which many interpret as an erosion of US dominance in the world economy.

The group reflected on the proposition that as more and more events appear to slip from American control, this does not mean that these new realities automatically work to a US disadvantage. Reflecting on the paper, the panel questioned the view that the United States has lost control of events, and that the events themselves are actually out of control.

The panel next considered the current structure and process through which major international economic policy decisions are made within the Federal Government. The basic thrust of this discussion focused on the lack of effective mechanisms for coordinating the various institutions within the executive and legislative branches in strategic decisionmaking and the formulation of policy.

In addition, it was pointed out that coordination of domestic and international economic policy among agencies such as the Department of Commerce, Department of Treasury, Department of Interior, Department of Energy, and other major elements of the executive branch, is particularly ineffectual. The panel also recognized the necessity of including the Department of Defense in important economic decisions. Further, it was noted that the demise of the Council on International Economic Policy, resulting from a recent reorganization action within the executive branch, together with a previous action downgrading the emergency preparedness function to a position within the General Services Administration, have had profound impact upon the capacity of the executive branch to arrive at strategically sound economic policy decisions.

Specifically, one panelist commented that new initiatives to integrate decision processes relating to materials policy are presently underway within the executive branch.

Likewise, several panelists commented that the prospect for a revitalization of the Federal Preparedness Agency and its positioning within the White House Staff with access to the National Security Council is a desirable improvement in the current situation. However, the panel came to no definitive position with respect to the particular apparatus which might be most appropriate for optimizing strategic economic decisions within the executive branch. But there was a general consensus and concern for the need to arrive at decisions drawn from a wider base of expertise and functional consideration.

Another panelist commented on the need to consider security aspects of conventional international economic relationships. Specifically, there is a growing concern that traditional economic processes involving trade, investment, and financial flows are impacting heavily upon the US industrial base in terms of its capability to support national security requirements during normal and under emergency conditions.

This concern is underscored by the erosion of the industrial base in a number of key sectors vital for national security. These changes have resulted from normal competitive processes in most instances, but in some cases it would appear that the defense sector erosion may have come about as a result of calculated national policies by competitor governments. The net result adversely affects the viability of these vital industries in terms of the economic national security.

This depleted industrial base may cause great difficulty in future years in terms of supporting US defense requirements from the US production base. Thus, consideration should be given to subsidies for protecting vital industries from foreign competition; mechanisms for control of technological transfers; options for stockpiling measures; and/or the maintenance of large standing forces as policy alternatives necessitated by these economic process dilemmas.

Here again, the panel noted the need to link decisions made with respect to international economic policies with the realities inherent in maintaining a viable economic base in support of national security requirements. Such an apparatus would properly motivate the private sector within the US economy in maintaining the traditional support of the Defense Establishment for the indefinite future.

IMPLICATIONS FOR POLICY IMPLEMENTATION

Following is a statement of the major themes addressed by the panel together with a summary of significant conclusions and recommendations enunciated by members of

the panel. These comments represent the more unique dimensions of the panel's deliberations, and are provided in order to prompt further inquiry into this challenging subject:

- Economic interdependency is a critical dimension of national security, and as such should be considered an instrument to be utilized in the pursuit of national security, strategy, and policy.
- The economic instruments that could be used in the pursuit of national security are legitimate adjuncts to more traditional approaches to assure national security objectives. In terms of East-West economic relationships, trade, investment, technology transfers, and allocation of resource flows should be considered as complements to other means of pursuing US policy interests.
- In the application of economic instruments in pursuit of national security objectives, the unique relationships emerging as a result of the North-South dialogue deserve special consideration on the part of those who formulate and implement policy.
- Changing patterns in world trade and investment flows are indicators of growing US vulnerability to competitive international economic processes.
- There is a growing need for closer collaboration among agencies charged with formulating and implementing economic policy within the United States and between the United States and other Western industrial societies in order to harmonize growing economic interdependency with the existing political systems.
- Further integration of economic and security strategies and policies among the industrial societies of the West should receive high priority.
- Economic prospects for the next decade will substantially alter existing security balances between the East and West, which necessitates careful reassessment of security policies and orchestration of mutual economic interdependencies.
- The economic prospects for the next decade will substantially alter the security balance between the East and the West, which requires careful reassessment of security policy in terms of mutual economic priorities.

The Threat from the Third World: Mounting Challenge to US and Western Economic Superiority?

Allan E. Goodman

... where the competition between the two superpowers is non-military, the United States continues to enjoy a number of critical advantages: in industrial, agricultural, technological, and diplomatic strength

Harold Brown, *Department of Defense
Annual Report Fiscal Year 1979*, p. 2.

Five years from now, will American Defense Secretaries make the same judgment? Does the United States really hold, as our conference planners put it, "significant, long-term advantages in most of the traditional, non-military elements of national power, including the enormous strength of its worldwide economic position?" The accumulation of vast dollar holdings by key members of OPEC, the dependence of all free world countries on OPEC oil, the weakening position of the dollar and the deterioration in the US balance of trade, and the growing assertiveness of key LDC's (less developed countries) on both international economic and political issues all raise significant questions concerning US national security in its broadest sense.

So far, the economic and political trends noted above have complicated US relations with a host of free world countries, especially in the so-called Third World. The growth in power and influence of OPEC, of course, is the most obvious example of the changed environment in which US foreign policy is now conducted. But the issues which have complicated foreign relations and have constrained US freedom of action reflect far more than uncertainties about access to and future supplies of natural resources. Diffusion of power—the growing political and economic multipolarity of international relations despite the persistence of strategic bipolarity—has also been cited as an important factor limiting US freedom of action on a global scale, especially in the areas of human rights, North-South relations, Southern Africa, nuclear nonproliferation, and antiterrorism policy. But what do these trends portend for national security? Do they necessarily weaken the United States or erode the strength of its alliance network vis-a-vis the Soviet Union?¹

Author's Note: I have benefitted from the advice and thinking of many colleagues in preparing this paper, especially Peter Clausen, Donald Goldstein, and Sidney Zabudoff. For the paper's shortcomings, however, I am solely responsible. The views expressed herein, moreover, are not intended to represent official US Government thinking or policy.

THE LINKS BETWEEN NATIONAL SECURITY AND ECONOMIC RESOURCES

There are three major links between economic resources and security. The most direct is in the area of *capabilities*. Wealth makes possible the maintenance of ready military forces and provides policymakers with the option of increasing these capabilities. Wealth also correlates with the scope of *alliance networks*, adding important strategic resources to national military power. But wealth, to the extent it depends on such resources as expanding foreign markets and imported raw materials, also tends to increase *dependence* on political and economic forces that a state may not be able to control even if it possesses a preponderance of military power. It is this third aspect of the link between economics and security that is of central concern here.

Starting with the monetary turmoil of the early 1970's and the fourfold increase in oil prices, the US economy has been subjected to an unprecedented series of shocks it neither anticipated nor could control, and from whose effects it has by no means yet recovered. Important structural changes have also occurred in the areas of trade and political relations, especially among the members of the OECD and NATO. While much has been written by politicians and economists about these developments, they have received relatively little systematic attention from students of national security policy.

Fortunately, two excellent essays have recently appeared that do explore the security implications of recent changes in trade and monetary relations.² Both essays reach essentially the same conclusion; namely, that given the increasing sensitivity (i.e., "interdependence") of states to the economic actions of allies as well as adversaries, governments will be beset by mounting domestic pressures which will inevitably require exploiting the vulnerabilities of others. The principal implication of this finding for national security is that such sensitivities will tend to promote conflict rather than cooperation, especially among allies.³

Since the essays from which this conclusion is drawn cover their fields so well, I plan to focus the bulk of this paper on an area that still has received almost no attention from students of national security: the so-called "threat from the Third World." Has the politicization of international economic relations by demands of the developing countries for a "New International Economic Order" and the polarization of other international issues along "North-South" lines weakened US leadership and, thereby, threatened US security? Have these developments enhanced the power and influence of the Soviet Union?

THE THREAT FROM THE THIRD WORLD

In September 1973, the near-moribund Non-Aligned Nations Movement was transformed by the leadership of Algeria and Mexico into an effective negotiating bloc within the UN system that launched, and to this day sustains, the momentum behind what has come to be called the "North-South dialogue" between industrialized and developing countries over the distribution of both wealth and political power in international affairs. During 1975 and 1976, moreover, LDC demands for a "New International Economic Order" (NIEO) were amplified by "threats" that OPEC would determine future oil prices in part on progress toward the NIEO,⁴ that other LDC's would form OPEC-style producer cartels that would demand (in return for assured supply) substantially higher prices for their commodities, and that the LDCs' UN negotiating bloc (the Group of 77) would hold multilateral negotiations—on such key global issues as energy, nuclear nonproliferation, and law of the sea—hostage to the NIEO demands.

Some observers anticipated such "threats" and argued that they had the potential to do real damage to US economic interests, especially in the context of OECD relations.⁵ The argument here was based partly on the belief that other OPEC's could be formed, partly on the growing sophistication and assertiveness of key LCD's who would in any case want to exact higher costs for continued US access not only to resources but also to trade and investment opportunities, and partly on the disturbing impact that the aforementioned developments could have on OECD relations at a time when such relations were already tense due to economic competitiveness.

Coupled with the economic argument was a growing political concern about US global leadership and how it could be affected by the diffusion of power mentioned earlier. Here, the argument was that the growth in LDC assertiveness would reduce US capacity to deal with key international problems. The threat implied by such a development was that on international political issues of major importance, the United States would find itself isolated and unable to work its will either unilaterally or in the UN context.⁶ For some, this argument could be dismissed on the grounds that the UN (and multilateral diplomacy in general) was not vital to our interests and that we could effectively "weigh-in" on issues that counted by pursuing our goals bilaterally.⁷ This approach was tested in 1976 in the UN, the law of the sea negotiation, and the Paris-based conference in International Economic Cooperation and tended to vindicate the claims of its proponents. Nonetheless, there has been a tendency (some would add "growing") for the tensions and concerns of multilateral diplomacy to spill over and to complicate bilateral relations with some key LDC's. United States relations with Mexico under Echevarria and Brazil, Nigeria, and Indonesia today are cases in point.

These lines of argument provide a framework for analysis and are useful in pointing out the key questions to examine. But these arguments frequently tend to treat the LDC's in the abstract or as a bloc when, in fact, the LDC's differ widely in outlook, capabilities, and objectives. What needs to be looked at is the behavior of key LDC's in dealing with concrete problems to determine whether and how the growing assertiveness and power of some developing countries threaten the advantages that the United States holds over the Soviet Union in the nonmilitary elements of national power.

PETRODOLLARS AND SECURITY

There is only a handful of LDC's whose power over international political and economic relations is clearly rising. Of primary importance are the petrodollar surplus countries of Saudi Arabia, Kuwait, Iran, and the United Arab Emirates (UAE) who have the potential to affect directly and unilaterally world financial flows. Their current reserves, for example, account for a lion's share of OPEC's \$160 billion in net foreign assets, a figure which conjures up for some a growing potential to wreak havoc in the international economy along the lines of that forecast by fiction writers today.⁸

The interest of these countries is—first and foremost—to assure the security of their holdings, however. Their growing links to and dependence on the West for secure outlets for investments and for advanced technology and other material assistance deemed essential to modernization create, in effect, a reverse dependence that will continue to discourage petrodollar surplus countries from seeking to destabilize the world economy.

ENERGY DEPENDENCE AND SECURITY

While the non-OPEC sources of oil supply are projected to double by 1985, growing free world dependence on Middle East oil to balance the market is irreversible over the next 5-10 years.⁹ At the same time most OPEC states, especially those in the Arabian peninsula, are becoming concerned about not only the price at which they sell their oil but also with the rate at which it is produced. Citing the need to hold up prices in a glutted market and the longer-term significance of conservation now, some major oil producing states have announced production cutbacks for indefinite periods. Because of the current oil supply glut and the slow rate at which demand is growing, these actions pose no immediate problem, i.e., for the next year or so. But, as most recent estimates suggest, demand will begin to approach supply certainly by the mid-1980's, with the outlook for substantially increasing OPEC production uncertain (especially if key OPEC producers continue to cut back their investment in production capacity). At that time, sharply rising oil prices—especially if the dollar continues to decline—will become not only feasible but irresistible. Thus, by the mid-1980's, the United States and other industrialized countries may find themselves burdened with substantially higher energy costs.¹⁰

Inherent in the conditions sketched above are major threats to United States prosperity and security. There may be the spectre of oil stringencies due to rising demand or continued OPEC reluctance to increase production, or the threat on the part of some oil producers to invoke a supply interruption, in order to pressure the United States on the Arab-Israeli conflict.¹¹ While a fully implemented strategic petroleum reserve would ease the immediate effects of such a supply interruption, it could not remove a large element of US and OECD vulnerability to the longer-term impacts. But even without an embargo, looming oil stringencies and their effect on prices would severely strain global economic recovery and, no doubt, add to tensions among the OECD partners, and between them and the developing countries. Energy dependence and the threat of sharply rising energy costs will thus continue to cast a shadow over the wider environment of American foreign policy.¹²

While it is important to guard against a kind of "energy determinism," there are a number of areas in which energy problems are likely to influence the management of economic and political-military relations among the OECD countries and throughout the rest of the world. High energy costs have increased inflation, slowed growth, and aggravated balance-of-payments problems in all countries, and thereby compounded the problems of trade and monetary relations among them.¹³ Multilateral cooperation in the recycling of oil revenues and the extension of assistance to the most seriously affected nations, like Italy, will be continuing requirements. In addition, it will be necessary to cope with increased pressures for assertively nationalistic and "mercantilist" forms of economic behavior, as consuming nations attempt to manage energy-related economic strains and to form special trade and investment relations with producers of oil and other raw materials. The recent intensification of competition in the export of nuclear facilities—and the attendant friction in US relations with France and Germany—is perhaps the most disquieting example of a trend that is also manifest in transfers of conventional arms and various energy technologies.

Energy costs have also had the effect of aggravating existing disparities in economic health among OECD nations. Countries already suffering from severe economic problems are particularly vulnerable to rising energy costs. Given that oil imports account for

a large and relatively inflexible share of overall imports in countries like France, Italy, and Japan, even modest price increases can greatly compound existing difficulties. While stronger economies (e.g., the United States and Germany) may experience only a temporary dip in growth, weaker ones may be caught in a persistent and self-reinforcing cycle of depressed growth, inflation, and depreciating currencies. A temporary improvement in economic performance, leading to increased energy consumption, only threatens to start the cycle again.

In the arena of East-West relations, energy dependence represents a major asymmetry in the components of national power of the OECD and the Communist countries, since both the Soviet Union and China are relatively self-sufficient in energy. Some 40-50 percent of Soviet export earnings are now energy-related, moreover, and this has eased hard currency problems for the Soviet Union and has facilitated the purchase of some advanced technology that could eventually affect the strategic balance. So far, neither of the major Communist powers has gained a significant strategic advantage from energy self-sufficiency, despite the temporary breakdown in Western alliance solidarity at the time of the 1973 Middle East conflict and the subsequent economic difficulties of the OECD nations. And, some predict that the Soviet Union will cease to be a net exporter of energy by the mid-1980's. Such a development could have enormously significant consequences for Soviet military capabilities, especially the strength of its alliance relationships with the Eastern European countries. If Soviet demand runs up against supply, Warsaw Pact countries could find themselves scrambling for oil on the international market, rather than looking to Moscow.

Nevertheless, the energy-related problems discussed above would probably have their greatest impact on the structure of collective security in the non-Communist world. As noted earlier, the preoccupation with oil supply problems competes with allies' political-military links to the United States (especially in the case of Japan and Southern Europe), and this could have potentially serious consequences during crisis situations. In addition, the domestic economic constraints to which energy costs have contributed could place a growing strain on defense budgets and thus exacerbate the issue of NATO burden-sharing. A likely consequence is an increasingly high German profile in the European contribution to NATO defense, and a concomitant increase in the prominence of the US-German core of the Atlantic Alliance. Combined with problems of political stability and the strength of the left in the Southern European countries, this trend could dilute the Atlantic orientation of the latter and render their continued contribution to NATO defense problematical.

RESOURCE DEPENDENCE AND SECURITY

In the heady, confrontation-filled months following the 1973-74 OPEC price rises and the Arab oil embargo, the slogan "One, two . . . many OPEC's" was frequently heard at LDC and UN meetings. Spurred on by the example of OPEC and undaunted by the uniqueness of oil in the international economy and the central role of a coherent Arab political interest within OPEC, some developing countries sought greater control over their terms of trade with industrialized countries. What they were after was a way to transform the growing dependence of the industrialized countries on imported raw materials into sufficient leverage over the latter so that a comprehensive international agreement—what the LDC's call the "Integrated Program on Commodities" (IPC)—substantially raising and then stabilizing commodity prices could be negotiated.¹⁴

Efforts on the part of LDC's to exert greater control over commodity markets are not new.¹⁵ In 1906, Brazil intervened for the first time in the coffee market and during the 1920's Chile (nitrates), Mexico (sisal), Cuba (sugar), and Britain's Asian colonies (natural rubber) all attempted what the LDC's, en bloc, are now seeking with the IPC. In the 1930's, international commodity agreements for coffee, sugar, tin, wheat, and tea were negotiated; after World War II, such agreements were negotiated for coffee, cotton textiles, tin, cocoa, and wheat. What is new, however, is the degree to which LDC governments now own these industries and view control over them as extensions of national power, especially in the area of foreign policy.

Of the major commodities required for the industries of a modern economy, the United States in 1973 already imported more than 50 percent of what is consumed for many key elements in metalworking and steelmaking industries (bauxite, chromium, nickel, manganese, tin, cobalt, columbium, and fluorspar). By the end of this decade, zinc and tungsten (both used in the metalworking and chemical industries) will probably be added to this list. And some analysts predict that the United States will be virtually dependent on imports for all its requirements of tin, manganese, chromium, and bauxite by 1985.¹⁶

But as Table 1 suggests, dependence on imported raw materials is not necessarily synonymous with dependence on LDC's. Australia, Canada, South Africa, and in the case of chromium and platinum the USSR, are key suppliers. In the case of those commodities for which LDC's are the major suppliers—Jamaica and Surinam for bauxite, Malaysia and Indonesia for natural rubber, Brazil for manganese, Malaysia and Thailand for tin, Mexico for fluorspar, Brazil for columbium, and Zaire for cobalt—there has been either relatively little interest in cartelization or a shortage of political will to carry it off. And, for the foreseeable future, the Council on International Economic Policy found that a potential for "cartel-like action to restrict supplies or raise prices" existed only for bauxite (the most common mineral on earth) and cobalt (of which the US possesses a large stockpile and for which nickel can be substituted in many uses).¹⁷ Finally, when considering the portion of the critical imported raw materials listed above actually required for defense production (an estimated 10-20 percent in wartime), the threat such dependence poses for US security must be judged low.

On balance, then, while efforts on the part of LDC's to form producer cartels may persist given the rhetoric of the North-South dialogue, they are not likely to generate "commodity power" a la OPEC or to create US vulnerabilities in a way that would markedly affect the strategic balance. It is most unlikely that LDC's acting as a bloc could exercise the control over the market that the Arab oil exporters achieved in 1973 or that, en bloc, they could ever agree on joint action in the first place.

Some would argue, however, that dependence on LDC's for imported raw materials poses more of a problem for our NATO allies and Japan, and accounts for their greater fear of the spectre of LDC "commodity power." Tables 2 and 3 provide (with the latest available data) a profile of the major suppliers for imported raw materials of the Western European countries and Japan. Developed countries still figure prominently as suppliers as they do in the case of the United States. Japan clearly has a greater reliance on Asian countries as a source of many more raw materials than either the United States or Europe, while European countries have a greater reliance on Black Africa for many more of their imports than does either Japan or the United States. But what makes these dependencies significant from a security point of view is not the prospect that events or

Table 1

US NET IMPORTS OF SELECTED COMMODITIES

Commodity	Net Imports 1973 \$ Millions	Net Imports as % 1973 Consumption	Net Imports 1976 \$ Millions	Major Suppliers 1969-1972 - %	Major Suppliers 1976 - %
Alumina	209	33%	330	Australia (50), Jamaica (22), Surinam (18)	Jamaica (55), Guinea (13), Surinam (11), Guyana (10)
Bauxite	143	90%		Jamaica (54), Surinam (23), USSR (32), South Africa (30), Turkey (18)	
Chromium	63	70%	70		
Platinum group metals	145	95%	270	UK (39), ** USSR (32), South Africa (12)	UK (19), South Africa (53), USSR (20)
Iron Ore	534	28%	980	Canada (50), Venezuela (31)	Canada (64), Venezuela (15), Brazil (11)
Nickel	544	65%	526	Canada (82), Norway (8)	Canada (67), Norway (11)
Natural Rubber	347	100%	522	Malaysia (40), Indonesia (39)	Indonesia (45), Malaysia (32)
Manganese	100	82%	74	Gabon (35), Brazil (33)	Gabon (43), Brazil (24)
Zinc	303	48%	503	Canada (60), Mexico (24)	Canada (71), Honduras (19)
Tin	215	65%	330	Malaysia (64), Thailand (27)	Malaysia (60), Thailand (14)
Titanium	48	29%	75***	Japan (73), USSR (19), UK (8)	
Cobalt	54	95%	--	Zaire (45), Belgium- Luxembourg (29)***	
Mercury	12	78%	4	Canada (59), Mexico (17)	
Tungsten	27	41%	31	Canada (61), Peru (9)	Canada (24), Bolivia (15)
Lead	27	17%	63	Canada (29), Peru (21), Australia (21), Mexico (17)	Canada (33), Honduras (36)
Columbium	NA	63%	NA	Brazil (62), Canada (16)	
Vanadium	NA	25%	NA	South Africa (55), Chile (35)	
Fluorspar	52	83%	66	Mexico (77), Spain (12)	Mexico (50), Canada (14)
Copper	143	5%	777	Canada (31), Peru (27), Chile (22)	Canada (21), Chile (17), Papua, New Guinea (20)
Phosphates	US net exporter				

*In quantity terms. Calculated by dividing net imports by total consumption. In some cases consumption includes withdrawals from (or additions to) government and/or private stocks.

**UK sources for raw materials are South Africa, Canada, and USSR.

***Includes Vanadium, Molybdenum, Tantalum, Zirconium

****Of Zaire origin.

Table 2

WESTERN EUROPEAN RAW MATERIAL IMPORTS -- MAJOR SUPPLIERS, 1976 (SHARE OF TOTAL)

	United States	Canada, Australia, So. Africa, Rhodesia	Black Africa	Latin America and Caribbean	Asia*	Communist Countries	Yugoslavia
Aluminum	4.2	.8	1.8	.7	.4	3.3	.9
Bauxite/Alumina	.1	36.8	39.0	15.0	3.0	3.1	.0
Chromium Ore and Conc.	2.0	16.3	9.5	.8	31.7	34.0	.0
Copper	3.9	12.1	21.5	13.7	.2	4.1	.8
Copper Ore and Conc.	.0	20.5	4.6	14.8	47.7	.6	—
Iron Ore and Conc.	.2	24.9	18.8	29.3	.6	2.1	.0
Lead	.2	47.2	2.9	3.6	4.0	4.7	2.1
Lead Ore and Conc.	3.7	20.4	5.2	32.7	.9	2.9	.0
Manganese Ore and Conc.	.6	42.5	37.8	12.1	1.7	1.1	.0
Nickel	14.8	28.7	.1	1.6	2.0	5.6	.0
Nickel Ore and Conc.	17.8	32.3	1.5	22.6	10.7	.0	—
Tin	.5	1.2	7.1	3.4	58.8	5.1	.0
Tungsten Ore and Conc.	1.6	16.9	2.5	18.1	34.3	20.5	—
Zinc Ore and Conc.	3.6	45.4	2.6	20.4	1.7	.4	.0
Zinc	.4	7.9	4.6	2.7	2.0	7.0	.8
Iron Ore	.2	24.9	18.8	29.3	.6	2.1	.0
Felspar, Fluorspar	.2	3.1	6.5	2.4	4.6	4.8	.0
Platinum Group	19.3	14.0	.0	.2	.1	15.5	.5
Ores and Conc. of Titanium, Vanadium, Molybdenum, Tantalum, Zirconium	18.2	41.0	.3	10.6	1.2	.0	.0
Natural Rubber	.4	.0	10.1	.4	84.9	.0	.0
Mercury	.6	.0	16.3	.0	8.0	5.3	.4
Tungsten	10.6	.2	.0	.2	6.6	.4	.2
Cobalt Oxides and Hydroxides	3.7	31.4	.0	.0	.0	.0	.0

* Includes Middle East and Oceania

— Data not available

Table 3

JAPANESE RAW MATERIAL IMPORTS -- MAJOR SUPPLIERS, 1976 (SHARE OF TOTAL)

	United States	CASAR*	Africa	L. America & Caribbean	Asia	Communist Countries	Yugoslavia
Aluminum	11.3	14.2	3.9	.0	20.9	20.5	1.2
Bauxite/Alumina	1.0	57.8	—	9.9	31.1	.9	—
Chromium Ore and Conc.	1.0	22.9	13.3	—	55.2	7.5	—
Copper	3.5	19.3	51.1	22.2	.8	.1	.0
Copper Ore and Conc.	.3	32.6	4.1	9.6	53.4	—	—
Iron Ore and Conc.	—	53.9	1.7	27.1	15.4	.8	—
Lead	1.0	5.7	.0	58.2	31.9	30.1	—
Lead Ore and Conc.	6.8	52.7	—	30.3	10.2	.0	—
Manganese Ore and Conc.	—	63.9	11.2	7.0	15.8	2.9	—
Nickel	5.5	48.6	.3	.0	7.9	20.3	—
Nickel Ore and Conc.	—	—	—	—	100.0	—	—
Tin	.0	.0	.0	.0	99.9	.8	—
Tungsten Ore and Conc.	5.1	19.4	1.1	15.2	56.5	3.6	—
Zinc Ore and Conc.	—	49.1	—	40.8	10.1	1.8	—
Zinc	.2	.0	.1	.8	98.5	98.0	—
Iron Ore	—	53.9	1.7	27.1	15.4	.8	—
Felspar, Fluorspar	—	32.7	10.5	.0	56.7	28.0	—
Platinum Group	5.8	39.9	—	.0	.0	38.2	—
Ores and Conc. of Titanium	—	—	—	—	—	—	—
Vanadium, Molybdenum, Tantalum, Zirconium	32.7	53.2	1.4	3.9	6.4	.1	.0
Natural Rubber	.0	—	—	.9	99.1	.3	—
Mercury	—	—	49.2	.0	.0	.0	9.7
Tungsten	24.5	.0	.0	.0	47.0	.1	—
Cobalt Oxides and Hydroxides	3.2	2.4	—	—	.0	.0	—

* CASAR: Canada, Australia, South Africa, and Rhodesia

— Data not available

political crisis in an African or Asian country would lead to supply shortages, but the political frictions that could be generated by actions our allies might take in response to such a development. As the Council on International Economic Policy (CIEP) pointed out in its 1974 report,

We have a basis of concern with the supply and price problem of Europe and Japan. If, for example, their supplies of copper were interrupted because of some unforeseen production shutdown in Latin America or African countries, the Japanese would no doubt move into the US market to obtain supplies. The price US consumers pay would thus be affected. Faced with sudden and heavy foreign demand for US material, the US would face the option of permitting market forces to continue operating or implementing special measures to protect US consumers, e.g., applying export controls.¹⁸

While, hypothetically, any supplier of raw material has the capability to cease supplying it, the important questions in sum are:

- Under what conditions would such an action become a viable foreign policy option?
- What impact would it have on relations between all countries who are dependent on imports of the particular commodity about to be embargoed?

Regardless of how costly such an action might prove, some countries might well determine in a crisis situation that a supply interruption is a viable policy option. But even the Arab oil embargo—which occurred under conditions unlikely to prevail for any LDC-supplied commodity discussed here—was a weapon designed to be used only in the *short run* because of cost/benefit considerations.¹⁹ While, therefore, the threat from LDC “commodity power” cannot be dismissed as a contingency (for it can add significantly to the intensity of a crisis and to tensions among allies), the ability of importing countries to cope over the long run should help significantly to ameliorate its impact on security.

TRADE DEPENDENCE AND SECURITY

Here, the concern centers on the degree to which the United States and other industrialized countries have become, since the quadrupling of oil prices, increasingly dependent on trade with the LDC's to assure high rates of growth. The most familiar line is that argued by the Overseas Development Council:

The developing countries' imports of goods from the industrialized countries in general and from the United States in particular, have grown to the extent that they can have an important and measurable impact on economic conditions in the industrialized countries. . . . The extent of these linkages between the industrial and lower income countries is suggested by recent calculations that a reduction of 3 percentage points in the annual growth rate of the non-oil exporting LDC's alone (of the sort many now expect for the rest of the decade) is likely to reduce the annual growth rate of the OECD economies taken as a group by one percentage point.²⁰

For such linkage to be transformed into LDC leverage, however, the LDC's would have to act with considerably more unity on the international economic scene than they do. Alternatively, the pattern of trade between industrialized and developing countries

would have to be considerably more concentrated than it is. As in the case of raw materials, the industrialized countries generally do not depend on a few LDC's who could exercise sufficient control over the market to affect decisively and permanently US or other industrialized countries' economic strength. Of the top 10 non-OPEC trading partners, only 3 account for more than 1 percent of the world market (see Table 4).

THE NORTH-SOUTH DIALOGUE, MULTILATERAL DIPLOMACY, AND SECURITY

Three weeks before the outbreak of the 1973 Arab-Israeli war, at the Algiers summit meeting of Non-Aligned Nations, the developing countries called for a special session of the UN General Assembly devoted to the problems of development. The result of that meeting (held in April 1974) was the "adoption" (for no vote was taken) by the UN General Assembly of an "action program" drafted en bloc by the LDC's calling for creation of a "New International Economic Order." This act marked the beginning of the "North-South dialogue," a series of complex international negotiations (see appendix) centered on LDC demands and largely controlled by the developing countries UN caucusing group, the "G-77."

Of greatest significance has been the tendency of some LDC's to link their cooperation in negotiations over law of the seas, the quality of the environment, the regulation of the export of nuclear technology, and international measures combatting terrorism, to progress on their demands for an NIEO.²¹ The impact of such linkage tactics was sharply brought home in 1974 at a host of international conferences where bloc tactics, and especially the use of symbolic issues to provoke confrontation, stymied nearly every US initiative and eventually induced a shift in US policy toward certain key LDC demands (e.g., the Common Fund and the scope of the CIEC discussions). Consequently, it was widely believed in Western government circles that progress in multilateral diplomacy in the UN context, and on such key global issues as energy, the environment, nuclear non-proliferation, and terrorism, would not be possible without the support and active cooperation of the G-77.

The momentum behind the North-South dialogue thus came to depend on the efforts of a small, fluid group of LDC's who derive their influence primarily from their ability to control institutions of multilateral diplomacy (e.g., the UN General Assembly, UNCTAD). These activists (e.g., the Philippines, Indonesia, India, Algeria, Nigeria) believe that there should be a redistribution of both wealth and political power in international affairs in their favor. To that end, they contribute resources in perpetually short supply in international organizations—i.e., capable diplomats and technicians who can devote their full time and energies to running caucus meetings, staffing ad hoc drafting groups, and lobbying. Their influence is enhanced not only because they provide what many Geneva- and New York-based Third World diplomats lack (expertise, staffing assistance, budgets for social occasions, and the prestige of occasional Chief of State endorsements), but also because the latter often operate in the absence of any firm instructions (other than to avoid jeopardizing LDC bloc unity) from their national capitals.

Because they are explicitly concerned about power relations, and especially about increasing their authority in regional and international affairs, the activists tend to evaluate the policies and preferences of industrialized countries in terms of their impact on national prestige. What matters to the activists seems to be the degree to which US and

Table 4

TOP 10 NON-OPEC TRADING PARTNERS OF "BIG-7," 1977*

Exports to:	Value (Million US \$)	Market Share (percent)	1970 Share (percent)	Imports from:	Value (Million US \$)	Market Share (percent)	1970 Share (percent)
South Korea	7,284	1.4	1.0	South Korea	6,794	1.2	.4
Mexico	6,265	1.2	1.4	Taiwan	6,693	1.2	.6
Brazil	5,690	1.1	1.0	Brazil	6,594	1.2	1.1
Taiwan	4,899	.9	.8	Hong Kong	5,721	1.0	1.0
Hong Kong	4,749	.9	.9	Mexico	5,682	1.0	1.0
Singapore	3,822	.7	.6	Malaysia	4,188	.8	.7
India	2,638	.5	.7	India	3,202	.6	.7
Philippines	2,481	.5	.6	Philippines	2,677	.5	.7
Thailand	2,450	.5	.5	Argentina	2,446	.4	.7
Argentina	2,155	.4	.7	Singapore	2,296	.4	.2
Total		8.1	8.2	Total		8.3	7.1

*The "Big-7" are the US, Japan, Canada, Germany, France, Britain, and Italy.

other industrial country initiatives and preferences reinforce or detract from such immediate objectives as the consolidation of regional status and influence and the expansion of authority over international institutions.

The continued North-South polarization of international economic and political issues will thus complicate the conduct of multilateral diplomacy and could generate strains in US relations with some of the LDC's who are among the most influential in UN politics. Aside from the Arab oil producing states, however, the nonindustrial states do not have the leverage—individually or collectively—to extract any of their basic demands against the will of the United States. And they clearly wish to avoid any net loss of support from the industrial countries for their modernization efforts.

Nevertheless, the need to manage the problems of resources, poverty, and nuclear proliferation effectively on a global scale will require the active cooperation and support of key LDC's. Some will continue to see the arenas in which solutions to their problems are discussed in North-South terms, evaluating US diplomatic initiatives in terms of political power balances in international organizations. Others, while they may be realistic about the utility of dealing with such problems on a global basis, will continue to find rhetorical support of LDC bloc approaches useful for enhancing their status within the context of regional rivalries and ambitions. And still other LDC's will continue to insist that the problems mentioned above can only be handled on a case-by-case basis and in the context of specific bilateral relationships. Sensitivity to these differences in outlook among the LDC's and to their preferences for dealing with what are nominally called "North-South" issues will thus remain a central challenge to US diplomacy for the foreseeable future.

It should be noted, finally, that the Soviet Union is viewed by most LDC's also as part of the North, and that it is perceived as having contributed little to solving some of the problems at the heart of the North-South dialogue. The frequent criticism of the Soviet role in most international conferences related to these issues has led to greater rhetorical attention by Soviet leaders to countering this criticism, but appears to have had much less impact on Moscow's bilateral relations with some of the most outspoken LDC's (e.g., Angola, Cuba) than criticism of US intransigence has had on the quality of our relations with "activist" LDC's and their leaders.

CONCLUSION

The foregoing was intended to examine the degree to which the economic and diplomatic power of key LDC's could threaten US and Western economic superiority, and how, in turn, such threats could affect US security. What is most striking from this review is that despite the explicit and implied limitations to freedom of action inherent in the changing international economic scene, especially with respect to US-LDC relations, the United States remains the single most powerful and influential country in the international arena. Most LDC's remain politically pragmatic as well as economically dependent and thus potentially susceptible to US influence and power when the latter are clearly delineated and forcefully projected.²² Countries with some of the attributes of wealth and power remain highly dependent in key areas (e.g., the oil-rich countries for technological development and military security). And while the Soviet Union is a superpower in strategic military terms, it generally cannot match potential US influence and freedom of action vis-a-vis global issues when it comes to economic wealth and power, technological prowess, and alliance and other diplomatic networks.²³ The Soviet

Union can, of course, threaten these capabilities, especially if it succeeds in gaining political, diplomatic, and strategic footholds in the Third World. But, again, how such threats would affect overall security will depend as much on what we do in response as on Moscow's ability to pose them.

At least for the moment, moreover, the challenges to US security posed by the dynamics of the economic changes afoot in the Third World and the implications they have had for diplomacy in the North-South context seem overshadowed by a disturbing development that is *not* on our agenda. This development is the growing challenge to central political authorities that appears to be occurring across the developed-developing country spectrum in the non-Communist world.

In the industrial democracies, challenges to central governments have been manifested for the most part in declining parliamentary majorities, as in Japan, West Germany, Italy, Britain, and Israel. Other manifestations are persistent labor and student unrest, political violence including terrorism, and what might be called "centrifugal politics," (i.e., separatism in Britain, France, Canada, Spain, Belgium, and Northern Ireland). The developing countries have also experienced a large amount of domestic turmoil that challenges the authority of central governments and their ability to mobilize political support and manage pressing internal problems. In 1977 political violence aimed at central political authorities occurred in Ethiopia, Angola, Zaire, Pakistan, the Seychelles, the Philippines, Indonesia, Argentina, Thailand, El Salvador, Nicaragua, Lebanon, and Benin.

The importance of this pattern of challenges to central political authorities lies in its implications for the international environment on which US foreign policy initiatives depend. Domestic instability is significant not only because of its immediate effects on ruling elites, bilateral and regional political relations, and East-West competition, but also because of its significance for addressing global issues of increasing salience such as human rights, responsiveness to LDC economic demands, antiproliferation policies, and arms transfer restraints. The growth of interdependence seems to have coincided with the weakening of central political authorities in many states, making international cooperation on global problems much more difficult to achieve. With little domestic political capital to spare, the compromises so often necessary for longer-term international policies and mutually beneficial adjustments to economic problems—both essential for collective security in an era of essential equivalence—may prove too costly in the short term for hard-pressed governments to bear. While the Soviet Union is not immune to these problems, the ability of the Soviet leadership to act decisively could constitute a major asymmetry in a vital component of national power—political will—that could prove as threatening to the strategic balance as any of the challenges now before us.

ENDNOTES

1. How these trends have affected the Soviet economy will not be examined in detail in this paper. They will be treated in the other paper prepared for this panel. Where appropriate, however, I have tried to at least speculate on what some of these trends could portend for Soviet economic and military capabilities, drawing on the analysis in John P Hardt's recent essay "Soviet Economic Capabilities and Defense Resources," in *The Soviet Threat*, ed. by Grayson Kirk and Nils H. Wessell (New York: The Academy of Political Science, 1978), pp. 122-134.

2. See Ronald I. Meltzer, "Contemporary Security Dimensions of International Trade Relations," and Janet Kelly, "International Monetary Systems and National Security," in Klaus Knorr and Frank Trager, eds., *Economic Issues and National Security* (Lawrence, Kansas: The Regents Press of Kansas, 1977), pp. 200-258.
3. Over the longer term, some analysts predict that such sensitivities could rend the fabric of contemporary alliances. For example, some contend that under such circumstances, "the purpose of exercising power may not be so much to prevent another state taking military action as to prevent it shifting the costs of its own domestic policy actions onto one's own state" Robert O. Keohane and Joseph S. Nye, Jr., "Power and Interdependence," *Survival*, July/August 1973, p. 159.
4. Such claims were bolstered (though not necessarily credibly so) by repeated public statements of Sheik Yamani and Venezuelan President Perez to this effect, and by the two articles Iran's Petroleum Minister Jahangir Amuzegar published in *Foreign Affairs* (October 1977 and July 1978).
5. See, for example, C. Fred Bergsten, "The Threat from the Third World," *Foreign Policy*, Summer 1973, pp. 102-124, and his "The Threat is Real," *Foreign Policy*, Spring 1974, pp. 84-90, as well as Edward L. Morse, "Crisis Diplomacy, Interdependence, and the Politics of International Economic Relations," *World Politics*, June 1973, pp. 123-150.
6. See, for example, Zbigniew Brzezinski, "American in a Hostile World," *Foreign Policy*, Summer 1976, pp. 65-96, and Joseph S. Nye, Jr., "Independence and Interdependence," *Foreign Policy*, Spring 1976, pp. 129-161.
7. See, for example, Robert Osgood, "US Security Interests in Ocean Law," in Ann Hollick and Robert Osgood, eds., *New Era of Ocean Politics*, (Baltimore: Johns Hopkins University Press, 1974), pp. 75-131; Daniel Patrick Moynihan, "The United States in Opposition," *Commentary*, March 1975.
8. See, for example, Paul Erdman's *The Crash of '79*. Interestingly, since the publication of Erdman's novel key Arab oil exporters have begun to shift their assets out of the very instruments (commercial bank short-term notes) the manipulation of which led to the "Crash of '79" and into long-term and relatively non-liquid assets. For details, see Youssef M. Ibrahim, "Arabs Investing Warily," *New York Times*, 15 June 1978, p. D-1.
9. For projections, see Exxon Corporation, *World Energy Outlook*, April 1978, pp. 34-35.
10. See, for example, Daniel Yergin, "The Real Meaning of the Energy Crunch," *New York Times Magazine*, 4 June 1978, p. 32ff.
11. For an excellent analysis of the components, and limits, of OPEC's political power, see Hans Maull, "Oil and Influence: The Oil Weapon Examined," in Knorr and Trager, *Economic Issues*, pp. 250-288.
12. I am indebted to my colleague Peter Clausen for this assessment of how energy dependence affects security. See also, the Rockefeller Foundation, *International Energy Supply: A Perspective from the Industrial World*, May 1978.
13. These particular problems are also the result of important structural shifts in the world economy, and will affect OECD relations even if no future "energy crunch" materializes.
14. For a brief description of this effort, see Harry G. Johnson, "Commodities: Less Developed Countries' Demands and Developed Countries' Responses," in Jagdish N.

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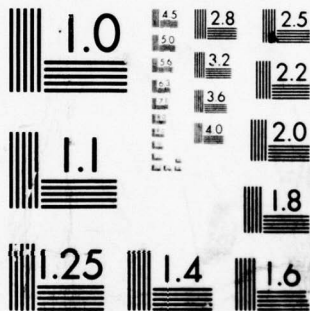
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15. For a review of the experience, see Stephen D. Krasner, "The Search for Stable Resource Flows: Structuring International Raw Materials Markets," paper presented at the Annual Meeting of the American Political Science Association, 25 September 1975.

16. Lester R. Brown, *The Global Politics of Resource Security* (Washington: Overseas Development Council, 1974).

17. Council on International Economic Policy, *Critical Imported Materials*, (December 1974).

18. *Ibid.*, p. 47.

19. See George Lenczowski's analysis of the planning and motives of the oil-producing countries in "The Oil Crisis: In Perspective," *Daedalus*, Fall 1975, pp. 59-72.

20. James P. Grant and John W. Sewell, "The LDC Connection: How Do Events in Developing Countries Affect Inflation, GNP Growth, and Jobs in the United States," typescript, Overseas Development Council, August 1977, p. 2.

21. For details, see Branislav Gosovic and John Gerard Ruggie, "On the Creation of a New International Economic Order: Issue Linkage and the Seventh Special Session of the UN General Assembly," *International Organization* 30 (Spring 1976): 309-345.

22. It should be noted that the LDC's are also *increasingly* affected by the projection of Soviet power and influence; see W. Scott Thompson, *Power Projection: A Net Assessment of US and Soviet Naval Capabilities* (New York: National Strategy Information Center, 1978). In addition, between 1974 and 1977 the Soviet Union has begun to rival the US in its delivery of arms to LDC's. For example, total Soviet deliveries are now estimated (in US cost terms) to total nearly \$15 billion in value (compared to some \$20 billion for the US), and during this period Moscow has actually delivered to the LDC's *more* fighter and bomber aircraft, tanks, antiaircraft guns, and artillery than Washington. See CIA, "Arms Flows to LDC's: US-Soviet Comparisons, 1974-1977," forthcoming.

23. See Hardt, "Soviet Economic Capabilities," for details.

APPENDIX

CHRONOLOGY OF EVENTS IN THE NORTH-SOUTH DIALOGUE SINCE 1973

Date	Developing Countries	Industrialized Countries	International Events
September 1973	<i>Nonaligned Summit, Algiers</i> Calls for UN meeting devoted to problems of development; first call for New International Economic Order.		
October 1973			<i>Arab-Israeli War</i> Leads to boycott and oil price increases.
February 1974		<i>Washington Energy Conference</i> First efforts by industrialized states to coordinate in face of new perceived threat from LDC's.	
April-May 1974			<i>6th Special Session United Nations General Assembly</i> Adopts program for New International Economic Order.
September 1974			<i>World Population Conference, Bucharest</i> Cooperative efforts by DC's and LDC's are apparent; resolution to recommend limits to population growth fails as LDC's argue that issue is development, not population.
November 1974			<i>World Food Conference, Rome</i> LDC's and DC's agree to strategy to increase food production in LDC's, establish food reserves, and create World Food Council to coordinate efforts.
December 1974		<i>International Energy Agency established</i> First successful effort at concerted policy; some divisions evident.	<i>United Nations Adopts Charter of Economic Rights and Duties of States</i> US and 5 European countries vote against; near high point of confrontation.
February 1975	<i>Dakar Conference</i> Firms up LDC consensus, particularly on raw materials. First disenchantment with OPEC by LDC's becomes evident.		
March 1975	<i>OPEC Heads of State Meeting, Algiers</i> OPEC countries declare their support of LDC demands.		<i>UNIDO Ministerial, Lima</i> US is only vote against newest restatement of NIEO demands

April 1975		Preparatory Meeting for Conference of Oil Producers and Exporters fails.
May 1975		OECD Ministerial Meeting US indicates policy assessment; special groups set up to study North-South issues in OECD.
August 1975	<i>Nonaligned Foreign Ministers, Lima</i> Takes moderate line to most political and economic demands.	
December 1975		Conference on International Economic Cooperation First talks between oil producers and consumers; first major conference between North- South outside UN framework.
February 1976	<i>Manila Conference of Group of 77</i> Manila Declaration established most recent statement of LDC objectives.	
May 1976		UNCTAD IV, Nairobi Compromise on commodities and debt maintains negotiating atmosphere.
June 1976		OECD Ministerial Economic Summit An attempt to resolve dif- ferences among industrial countries on policies toward LDC's.
July 1976		CIEC Review Meeting Instructs working groups to set agenda for next 6 months; efforts fail as LDC's resume hard line positions.
August 1976	<i>Nonaligned Summit, Colombo</i> Will review major areas of LDC policy on political and economic subjects.	
September 1976	G-77 Conference on LDC Economic Cooperation LDC's discuss cooperation on trade, monetary, and raw materials issues.	31st UN General Assembly Review of progress in follow- up to UNCTAD could affect negotiations on other politi- cal and economic topics. CIEC Reconvenes LDC's and DC's restart dialogue on North-South issues. UNCTAD Commodities Preparatory meeting on copper starts off UNCTAD discussions on the Inte- grated Programme for Commodities.

December 1976	<i>OPEC Ministers Meeting</i> Ministers decide on a two-tier price increase.	<i>CIEC Ministerial</i> Postponed until 1977.
April 1977	<i>Nonaligned Ministerial, New Delhi</i> Conciliatory tone of final communique reflects continuation of a gradual shift away from confrontational tactics in the North-South dialogue.	
May 1977	<i>London Summit</i> Leaders of major industrial countries coordinate CIEC strategy, notably moving toward more liberal policy on Commodity and aid issues.	<i>CIEC Ministerial</i> Developed and developing countries agree in principle to establishment of a Common Fund, but fail to agree on future treatment of energy issues, debt relief, and on a successor for CIEC.
May-June 1977	<i>UN Conference on Technical Cooperation among Developing Countries</i> Primarily organizational session. At future meetings LDC's will consider means to promote sharing of skills and development methods.	<i>Law of the Sea Conference</i> Despite progress on some North-South LOS differences, resulting draft on seabed mining is unacceptable to major industrial countries. Prospects for a comprehensive treaty remain distant.
July 1977	<i>OPEC Ministerial</i> Major producers agree to 5 percent across-the-board oil price hike, ending their six month price freeze.	
August 1977	<i>Third World Commodity Producers Association Meeting</i> Nonaligned proposal for a Council of Producers to coordinate pricing policies generates little support among LDC exporters.	
September 1977		<i>ASEAN Ministerial Talks with US and Japan, Manila</i> ASEAN LDC's and their major trading partners discuss market access, commodity and investment issues.
		<i>Multinational Trade Negotiations Resume</i> Will continue at least through Spring 1978, and probably throughout the year. Issues to be negotiated include preferential treatment of LDC agricultural and manufactured exports.

October 1977

OECD High Level DAC Meeting
Ministers of major industrial countries consult on OECD's post-CIEC development efforts, stressing basic human needs and increased participation by non-DAC countries.

*32d UN General Assembly
Convenes*

Resolves to set up a "committee of the whole" to oversee and monitor the North-South dialogue.

Agreement

First commodity agreement to emerge under the UNCTAD integrated program successfully negotiated. Effective provisionally in January 1978.

November 1977

*Common Fund Negotiating
Session*

Breaks down over financing arrangements. LDC's regard a Common Fund as vehicle for transfer of resources, while major Group B countries seek to limit functions of Fund to stabilization of commodity prices.

December 1977

OPEC Heads of State Meeting
Major conservative producers secure virtual freeze of oil prices at current levels. Venezuelan proposal to tie price hike to OPEC aid program for debt burdened LDC's is rejected.

February 1978

*UN Committee of the Whole
("Overview Committee")*

Organizational meeting sets schedule of substantive meetings for 1978, and agenda for first meeting in May.

March 1978

*UNCTAD TDB 9th
Ministerial*

Resulted in first debt relief agreement. Calls for creation of group of experts to recommend features of future debt operations, and provides for further review of debt at UNCTAD V.

April 1978

*7th Session of LOS
Conference, Geneva*

North-South differences over the seabed mining issue continue to be the principal obstacle to concluding a comprehensive oceans treaty.

May 1978	<i>Nonaligned Coordinating Committee Ministerial</i> Meets in Kabul to establish agenda for Belgrade Ministerial in July.	<i>OECD DAC Meeting on Rural Development</i> Will continue to pursue "basic human needs" approach endorsed after CIEC.	<i>UN Economic and Social Council</i> 64th Session. <i>UN General Assembly Special Session on Disarmament UN Overview Committee</i> First substantive session meets in New York. Agenda includes discussion of the relationship between developing and developed country economies, and transfer of resources to developing countries.
June 1978			<i>UN Overview Committee</i> Second substantive session.
July 1978	<i>Nonaligned Ministerial, Belgrade</i> Nonaligned leaders will seek to reaffirm group solidarity. Outcome of this session will affect thrust of 1979 Summit.		<i>UN Economic and Social Council</i> 65th Session. <i>UNCTAD Ad Hoc Intergovernmental Committee for the Integrated Program Commodities</i>
August 1978	<i>UN Conference on Technical Cooperation Among Developing Countries, Buenos Aires</i>		
September 1978			<i>UNCTAD Trade and Development Board</i>
October 1978			<i>UN Conference on Adoption of an International Code of Conduct on Transfer of Technology</i> <i>UNESCO General Conference (20th Session), Paris</i>
May 1979			<i>UNCTAD V, Manila</i> Focal meeting in North-South dialogue. LDC's likely to conduct a critical review of progress on the Integrated Program and other NIEO goals.
Summer 1979	<i>Nonaligned Summit Havana</i>		
Fall 1979			<i>World Administrative Radio Conference (WARC)</i> <i>UN Conference on Science Science and Technology for Development</i>

Is Essential Equivalence Extendable? The Possibilities of and Prospects for a Soviet Strategic Threat to US and Western Economic Superiority

James A. Nathan and James K. Oliver

In the 10th century, foreign ambassadors used to be called to Constantinople in order that they be impressed with the military splendor of an enervated empire.

[There were] interminable reviews at which the same troops emerging from one of the gates and entering by another, came round and round again carrying different kinds of armour. In order to dazzle . . . [by] glamour and mystery mechanical devices caused the steps of [the Emperor's] throne to roar terribly, while the throne itself worked up and down, so that the visiting ambassador, on rising from the kowtow . . . would notice that the Emperor had been miraculously elevated¹

In the 20th century, some observers have had the feeling that the American Empire, like that of Byzantium, was increasingly held together with smoke and mirrors. Not that the firepower to enforce commitments could not be had. It could. But the disposition to use it was becoming increasingly unbelievable.

President Carter has declared as a "myth" that "this country somehow is pulling back from protecting our interests and its friends around the world." To counter the increase in Soviet activism, Mr. Carter stated, "the Secretary of Defense . . . is improving and will maintain quickly deployable forces—air, land and sea—to defend our interests throughout the world."² The President has emphasized Europe in military planning and simultaneously remained insistent that our Asian "interests and commitments" remain "vital." In Thailand and Indonesia, Vice President Mondale reaffirmed American support of the 1954 Manila Pact and the Association of South East Asian Nations. In Korea, the American standdown of ground troops was slowed. Our top priority, the Vice President told Asian leaders, "now that we have entered a new era in South East Asia," is standing by our 1954 Manila pledge, to defend the region against Communist aggression. There were no current plans to send troops to the region, he told Indonesian leaders. Nevertheless, the United States was obliged to seek the "peace, stability and national independence of nations in the area."³

Hence, the Carter Administration has not only retained, on the verbal level, at least, the whole fabric of American commitments built up since World War II, but expanded them by adding the Persian Gulf as a region which has been designated a military planning priority second only to Europe. But rhetoric seemed increasingly divorced from reality. There were, after every call to the worldwide ramparts, voices stage-whispering from the State Department and elsewhere that administration rhetoric was only for do-

mestic consumption. The fact that the Vice President—one of whose essential administration roles was liaison with Congress—was picked to reaffirm US interests in the Asian theater in the midst of the emerging great debate about the Navy's future and in the wake of the harrowingly close vote on the Panama Canal Treaty brings some warrant to the suspicion that our farflung commitments are being loudly reaffirmed so that Mr. Carter could not be said in Congress to be capitulating to the Soviets on strategic issues and so that the President could contend, to the doubtful, that American greatness remained undiminished. The recent verbal assurances may seem like an inflated coin of decreasing value. Yet, on the other hand, Mr. Carter was probably right to fear that silence or, more seriously, any real liquidation of commitments could cause a run on the bank.

The uncertainty surrounding any future contemplation of the use of force is, in part, attributable to the augmented naval and ground presence of Soviet forces and their Cuban surrogates. However, the problem the Carter administration has found in relating force to diplomacy is not simply one of a new Soviet presence. With the erosion of bipolarity, the diffusion of military power and the rise of interdependence, force as an instrument of diplomacy seems in the view of many observers and practitioners of foreign policy to have entered a new period of depreciation. The apparent disutilities of force have led many to speculate that the definition of power and security may have changed. For developed states at least, it is now frequently argued the only relevant instrument of influence is the manipulation of economic incentives and deprivations. Similarly, influence and bargaining power can no longer be seen as simply the capacity to orchestrate violent coercion, since, in an interdependent environment, injury to others may have a pernicious and expensive cost to oneself. Security, in this environment, may be less a matter of forestalling the military adventurism of others and more a capacity to insulate oneself from economic dislocation. On the other hand, security may require deeper engagement in a complex web of reciprocally sensitive domestic economies, resource and trade vulnerabilities and uncertain monetary and financial arrangements.

This paper examines the broad question of the interaction of Soviet-American power in this environment of complex interdependence. After a brief examination of the nature and exercise of power and influence in this setting, we turn to an analysis of the respective Soviet and American positions. In this survey we will directly or indirectly touch on a number of more specific questions: In a world in which economic position assumes such importance, what are the relative abilities of the United States and the West versus the Soviet Union and the East to alter or affect each other's worldwide economic position? What political, economic, technological and military factors ought one to consider? What are the relative vulnerabilities of the two sides to resource scarcities? To the extent that such vulnerabilities exist, how might they be exploited? How might the military resources of "essential equivalence" be brought to bear, if at all, in this new international environment?

I. AMERICAN AND SOVIET POWER IN AN INTERDEPENDENT WORLD

If the ideological sources of the Cold War and the complement of security concerns that gave impetus to the Soviet-American interaction are likely to persist in the future, it is nonetheless true that future relations will be played out within a markedly different political, strategic and, above all, economic context. The pursuit of superpower national interest within such a framework seems likely to entail a much more difficult exercise of

power than in the past. Indeed, the very nature of power—an always elusive concept—becomes more problematic in the face of complex political, military and economic interdependencies. Essential equivalence has undermined the credibility of reciprocal superpower posturing; their respective alliances have weakened; and not withstanding strident alarms that the Cold War lives, the statesman confronts a daily agenda headed by the frustratingly unresponsive problems of international political economy. These latter problems are increasingly defined by the interaction of multiple, sometimes mutual but often, asymmetrical, dependencies encompassing a broad range of issue areas. In sum, the international environment is such that concepts and instruments of influence or power are extraordinarily difficult to develop and apply.

In this new environment it has been suggested that sustained influence seems to require, ultimately, the ability to respond to local needs and dynamics. Often as not, this means the long term provision of economic goods and services in addition to military assets which may be appropriate to an immediate situation. Moreover, if the present situation in the Middle East is indicative, influence in similar conflicts (and they seem likely to be repeated in other areas, e.g. Southern Africa and South Asia) will also involve the provision of diplomatic services—the ancient and frequently honorable role of arbiter. Here again, of course, influence is a function of sensitivity and responsiveness to local dynamics and conditions so that one may gain mutual confidence and thereby position oneself at the center of negotiation and communication. Such a position is often an uncomfortable and frustrating one but it is also not without influence and, one suspects, of great use in a world in which regional conflict and instability can disrupt crucial resource supply.

In fact, many students of contemporary international relations argue that it is precisely the ability to gain access to and maintain a position “at the intersection of numerous and different forms of interdependence”⁴ that now and for the foreseeable future will constitute the essence of power and influence. If complex interdependence defined in terms of “*reciprocal* effects among countries or among actors in different countries”⁵ is to be the order of the future, then any assessment of the meaning, elements, and use of power must be seen in this context. “If the international power of a country is defined as the capacity to influence other countries to accede to its objectives,” Seyom Brown has written, “then in a system characterized by multiple and crosscutting coalitions formed around a variety of issues, the properties of power would be significantly different than in the predominantly bipolar system.” Brown continues:

In the new system, those with the most influence are likely to be those which are major constructive participants in the widest variety of coalitions and partnerships, since such countries would have the largest supply of usable political currency . . .⁶

There is a necessary caveat to be entered here. Influence in this framework is weak when the bulk of one's dependencies are grossly unequal or impinge on vital security interests. Under such circumstances power and greater influence may be thought to lie in the direction of autonomy, but as Robert Legvold has pointed out with respect to Soviet autarky, there is danger here as well: “. . . by sidelining itself a nation also reduces its power to the extent that the rewards of participation are passed up.”⁷ Legvold goes on to underscore the subtleties of power in such a world:

. . . Power in an interdependent world also depends on how fungible others' dependencies are (that is, how easily their dependencies in one realm can be

converted to offset yours in another) and how serviceable your vulnerabilities are (that is, when interdependence is asymmetrical, how much others hurt themselves by hurting you.)⁸

The respective abilities of the United States and Soviet Union to affect one another's global economic and hence strategic position, especially regarding resource scarcity, must be understood within the framework of these powerful new contextual factors. Thus, it would seem that scarcity of resources important to one's well-being, i.e. vulnerability, is not in itself all that critical. For scarcity and hence vulnerabilities of one sort or another would seem to be the very essence of contemporary world politics. The far more important question concerns how these vulnerabilities relate to one another and under what conditions and at what costs to whom are they subject to manipulation.

The orthodox interpretation of the structure and dynamics of East-West international political-economic relations emphasizes the distinct character of the American and Soviet position and the predominance of political factors in their relationship with one another.⁹ The United States and Soviet Union stand today as economic giants in their respective spheres having historically relatively little to do with one another economically. Their positions and apparent aspirations within their respective political-economic environments are qualitatively distinct and in these differences lie perhaps the most important factors conditioning their economic vulnerabilities to one another and overall influence in an interdependent world.

In the case of the United States, resource scarcities, sensitivities, and vulnerabilities run to several sources in the Third World. But exploitation and manipulation of these circumstances have been mitigated, with thus far the major one-time exception of oil, by the mechanisms of interdependence, i.e. the fungible dependencies of the raw materials exporting world and the fact that the dependencies of the United States and the industrialized world have proved over the 5 years since the oil embargo, to be serviceable as an instrument to promote some OPEC moderation in its pricing policies. In the former instance, most of the raw materials exporters are less developed and are therefore dependent upon the industrialized world for markets and development assistance. In the case of OPEC, the exploitation of Western dependency has led to enormous new OPEC wealth. However, the concomitant disruption of the industrialized world's economy has resulted in a devaluation of the investment potential of OPEC's windfall and contributed to the ability and willingness of the Saudi Arabians to restrain OPEC's price hawks during subsequent rounds of price setting negotiations.

In sum, economic resource scarcities are a real and continuing problem for the United States, but there is no self-evident strategic implication to be drawn from this fact alone. For American resource scarcities and dependencies are paralleled by financial and investment dependencies elsewhere. Moreover, the sheer magnitude and dynamism of the American economy place it squarely at the point of intersection of these multiple and varied vulnerabilities and dependencies. In short, the United States is at the locus of interdependence and, hence, power in contemporary world politics.

In contrast, the Soviet Union stands apart from the range of interdependencies that seem to characterize some of the most important features of the emerging international system. But the relatively autarkic Soviet Union seems also dramatically removed from many of the contemporary levers of influence. It is true, of course, that the Soviets possess considerable sums of ultimate power in the form of nuclear weapons and conventional military force. But in a world where the instruments of power are largely

technical and economic, the Soviets seem oddly dispossessed. As Legvold recently asked in an assessment of the nature of Soviet power, "How much of a world power is a nation without much power in the world economy?"¹⁰

There is some evidence that to the extent that the Soviet Union is moving away from its rigidly autarkic position vis-a-vis the international political economics of the West, the resultant Soviet and East European economic transactions have and will continue to increase their dependence. It is not clear, however, that these dependencies are irreversible or that they offer the West significant opportunities to exploit the Communists' economic position.¹¹ Even if such opportunities exist, however, it is even less clear that they should be exploited.

II. THE ECONOMIC POSITION OF THE SOVIET UNION

The Soviet Union's peripheral position has resulted from Western policy as well as their own predisposition for autarky. The latter results in part from the imperatives of planning but also from the measure of successful economic growth achieved throughout most of the post-World War II period. Thus, growth rates at or above the Western economies seemed to underscore the wisdom of the tightly controlled integration of Soviet and East European economies. Virtual self-sufficiency in energy and raw materials supplies, rigid control of labor mobilization and adherence to a strategy of industrialization based on annual increases in the quantities of factors of production provided the basis for an expanding Soviet economy which simultaneously exported energy resources to East Europe.¹² Now, however, most Western economists note, and statements by Soviet officials seem to confirm, that the Soviet Union is entering a period during which growth will decline. Part of the explanation for this change in Soviet economic prospects is related to demographic changes in the labor force which seem likely to limit the ability of Soviet planners to keep increasing inputs of this factor of production. Other conditions having to do with the declining efficiency of the Soviet economy are related to low rates of Soviet technological progress in the nonmilitary sector of the economy as well as broader problems of organizational structure which seem to inhibit the rate at which innovation can be incorporated into the Soviet economy. This has led the Soviet Union and Eastern Europe to import large amounts of foreign technology in an effort to maintain planned rates of economic growth. To the extent that these imports of technology represent a growing and crucial dependency—and there is debate among many Western observers—control and/or manipulation of these imports by the West could conceivably represent strategic leverage for the United States.¹³ Indeed, Marshall Goldman has underscored the fact that technological imports, while at the outset convenient for the Soviets, may easily turn into long-term dependency given the nature of contemporary technology. In contrast with the relatively simple technology imported during the 1930s,

... electronics, computers, and chemicals [are] more complicated and harder to duplicate without the proper infrastructure. Moreover, if the Soviet Union ever hopes to become competitive, it will not be enough to duplicate the existing facilities. The Soviet Union will have to maintain a current flow of new parts and new technology as well as of spare parts.¹⁴

Nonetheless, neither Goldman nor any other Western student of the Soviet economy is prepared to argue that a strategically and easily manipulable dependency exists today. The East Europeans may be closer to this point. Thus, John P. Hardt of the

Congressional Research Service recently summarized analysis of East European technology imports with the observation that "Western imports, technology, and supplies bear promise for necessary Eastern economic modernization and consumer improvement. Small as Western trade may be it often appears to represent the critical margin for economic success."¹⁵ However, in both cases a number of conditions would seem to work against Western manipulation of this nascent vulnerability.

In the first place, the East has available a range of suppliers of which the United States is by no means the most important. Indeed, the bulk of American exports to the Soviet Union is agricultural in nature. Furthermore, the level of trade between the East and West is small and among major Western nations trading with the East, US trade with the Soviet Union and Eastern Europe represents the smallest percentage.¹⁶ Finally, even if a convincing argument could be made that the Soviet Union and Eastern Europe had reached a point of strategic vulnerability vis-a-vis technological imports from the West, it is not clear how or whether such a vulnerability could be manipulated. The ability of the United States to restrain its allies from trading with the East during the bipolar period through the mechanism of the Coordinating Committee of NATO is not impressive and there is little reason to believe that West European nations who find one-third to one-half of their GNP's derived from trade will find similar arguments any more convincing today and in the future.

In addition, the growing and much debated Soviet and East European debt to the West seems likely to constrain the manipulation of whatever vulnerabilities may be emerging in the Soviet economic position.¹⁷ The Soviet-East European debt, which is now estimated at well over \$40 billion and represents anywhere from 11 to 25 percent of export earnings for the countries in question, constitutes a form of serviceable vulnerability for the East. Whereas similar circumstances in less developed countries may lead to direct lender intervention in the debtor's economic planning and management, one cannot conceive of circumstances of this sort arising in the Soviet Union. Indeed, conditions similar to this insured that the Soviets would not enter into international economic institutions and arrangements set up by the West after World War II to manage the recovery of Europe and the world economy. In sum, exploitation of Eastern debt vulnerability is possible only in a fashion analogous to the manipulation of American oil vulnerability; that is, an attempt to hurt the Soviets or East Europeans via the debt implies injury to Western financial institutions as well. Indeed, these institutions now have an interest in Eastern economic growth and expanded trade with the West, which implies that further credits are not unlikely.

The Soviet economy is marked by other inadequacies which seem to compel it into deeper interconnectedness, if not actual interdependence, with the West. Most notorious, perhaps, have been recent agricultural productivity shortfalls which have forced the Soviets to buy large amounts of American grain and thereby deepen their hard currency deficit problem. Here again, however, manipulation of this situation is problematic. Insofar as Soviet planners seem committed to higher levels of domestic meat consumption within an agricultural framework that cannot produce sufficient grain with annual certainty to support the requisite livestock herd, the Soviet Union seems likely to reappear in future American grain markets. But as Goldman has pointed out, the past irregular pattern of such purchases has proved extremely disruptive of the American marketplace. Thus, American economic interests would seem to lie not in the direction of waiting for Soviet weather difficulties and then trying to squeeze them, but in trying to negotiate more predictable and profitable Soviet purchases.¹⁸

There are other Soviet economic problems or dependencies. The Soviets import virtually all of their natural rubber and a recent analysis of Soviet aluminum production posits import levels of raw materials of 40 percent.¹⁹ Perhaps most dramatic—and controversial—however, has been the projection that the Soviets will find themselves having to import oil by the mid-1980's.²⁰ This projection by the Central Intelligence Agency has been met by considerable skepticism within the American petroleum industry and throughout Western Europe. More important, however, is the question of how, even if the CIA projections are borne out, the United States could exploit the Soviets' resource scarcity?

Apart from an internal tradeoff of reduced consumer oriented production and/or reduction of military spending to ease the tightness of the Soviet economy, the most important effects of the Soviet Union's economic position may be in Eastern Europe.²¹ This would seem to be the case whether one accepts controversial CIA projections of a tightening Soviet oil or raw materials supply situation or focuses instead on the hard currency-credit squeeze now affecting the East's ability to import Western technology. In the former case, the East Europeans would be compelled to import more oil from OPEC and thereby further undermine their hard currency-credit reserves as well as drawing down scarce financial resources necessary to purchase Western technology. In the latter case, the lack of credit constrains the East European's ability to purchase crucial technology. In either case, deepening economic stagnation could result with the possible undermining of political stability—a possibility of extreme sensitivity to the Soviet Union.

The policy problem for the United States is complex and there seem to be few self-evident responses. The United States could simply cut off credit or technology of any kind as is currently being advocated by some in the National Security Council with respect to oil drilling and computer technology desired by the Soviets.²² Presumably the desired outcome would be to force the Soviets to make painful internal decisions concerning economic growth versus military spending, become more responsive to American objectives vis-a-vis detente, or confront them with deteriorating political and economic conditions in East Europe. But as noted previously, the United States is not the only, or even the most important, participant in economic transactions with the East. A narrow manipulative approach is likely to find, as in the past, the West Europeans or the Japanese proceeding on their own or in concert to advance and protect their own interest in the maze of political-economic opportunities and reciprocal vulnerabilities that are emerging in the East-West relationship. Further, even where the United States has an absolute monopoly on technology, such as in oil drilling equipment, withholding it from the Soviets could have ironic consequences. For if Soviet energy resources prove insufficient, the Russians and East Europeans may begin to bid for OPEC oil. The result might well be to merely take up some of the current slack in demand for oil and stimulate further price rises from which, it could be argued, the West would suffer at least as much as the East. Oil shortages in the energy-intensive manufacturing sectors of the Soviet bloc could result in great social unrest.

Moreover, one cannot help but wonder whether it is in anybody's strategic interest to court the possibility and consequences of a Soviet crackdown in East Europe that could follow the appearance of a policy of overt manipulation and subsequent unravelling of the political situation in Eastern Europe. There is precedent for this—the period after the 1947 Paris Conference of the Marshall Plan—and there is little in that precedent and the succeeding 25 years to recommend such a course.

It would seem, therefore, that the Soviet Union finds itself, in part inadvertently, but also as the result of its own needs and policy initiatives, edging tentatively away from its isolated position on the periphery of the industrialized world's political economy. In Marshall Goldman's view:

What the combined effect of all these various factors will be remains to be seen. The Soviet Union is allowing itself to become more intertwined into the world economy. No one move by itself has been all that far reaching, but the totality of these processes in recent years and in years to come, may eventually bring about a qualitative change. As of now the USSR may still be able to extract itself without too much trouble, but it is clear that if the present trend continues the cost of severing ties with the West will mount rapidly.²³

Furthermore, as Goldman emphasizes, they have moved to this position despite a good deal of embarrassment due to their credit situation and the apparent limits of their agricultural sector. In addition, they have continued to accept the consequences of this position in the face of American attempts to extract political and even strategic *quid pro quos* from the Soviet Union's dependencies.

Thus, in contrast to the fears expressed by many concerning Soviet exploitation of American dependencies, it has been the United States that has sought to use its economic capabilities to exploit the weaknesses of the Soviet economic position. The Soviets, in contrast, seem to have been less willing or have been unable to respond in kind. Perhaps this reflects the fundamental "asymmetry of stakes" in interdependence between the two sides outlined by Holzman and Legvold.²⁴ That is to say, for the United States, the stakes of growing East-West interdependence have tended to be defined in political terms. For the Soviet Union, on the other hand, the stakes have been primarily economic and they have not thus far acted as if they viewed American economic vulnerabilities as significant or easily exploited strategic assets. In fact, the Soviet Union's economic position on the periphery has meant that they have possessed few economic instruments that they could bring to bear in a sustained and subtle manner on the web of reciprocal dependencies in which the United States has found itself enmeshed. Conversely, the same relative position complicates immensely any American attempt to use decisively its economic position against that of the Soviet Union.

It might be argued, however, that because the Soviets tend to be isolated from the world economy, they might be able to extract considerable leverage by using military power to pressure the West's critical trade and supply routes. Given the right mix of circumstances, the Soviets would, in this view, be able to deny the West strategic resources through the use of proxy forces, the sponsorship of upheaval in critical producing countries, or use of their own forces to change the character of regimes and install clients who would deny critical materials to the West.

III. AMERICAN INTERDEPENDENCE AND SOVIET POWER

It is true that a great and growing percentage of American trade is involved with the Third World and, hence, would seem vulnerable to some of the more fearsome suggestions offered by observers. The United States had in 1976, for example, some \$264.6 billion involved overseas of which \$68.8 billion was privately invested in the Third World.²⁵ A growing number of extractive products are now gleaned from the Third World, but to argue that this makes the United States inextricably and asymmetrically vulnerable

is strained. As Kenneth Waltz noted at the outset of the decade, "in 1910, the value of total British investment abroad was 1 1/2 times larger than her national income, for the United States today, however, it is a meager 18 percent."²⁶ Finally, the United States derives less of its national wealth from the foreign sector than any other advanced economy.²⁷

None of this is to suggest that the United States is free of interdependency.²⁸ The relationships of the United States, the other non-Communist industrialized and industrializing nations along with the Third World are, of course, the basis of the interdependence model of world political economics so prevalent today. But the position of the United States vis-a-vis the rest of the Western world economy is probably stronger than all other major elements of that system. Five years of high energy imports at high prices which in turn contribute significantly to Western monetary uncertainty are indicative of important American vulnerabilities and interdependence. However, analysis of the impact of rising energy costs on the other members of the non-Communist international economy make it clear that the relative short- and long-term political and economic impact of the 1973-1974 oil crisis was as great or greater in the Third World, Europe, and Japan as it was in the United States.²⁹ Furthermore, comparative assessments of relative vulnerabilities reflected in trade relations, whether taking "gross" indicators such as proportion of GNP represented by exports and imports or more "refined" measures focusing on composition of trade, the nature of trading partners (friendly allies vs. unfriendly states), trade in specific commodities (e.g., energy or crucial imported raw materials), or the diversity of sources of supply and ultimately substitution capability, all underscore the relative security of the American economy within the Western economic context.³⁰

At the same time, the Third World economies involved in these trade relations find it difficult to extract themselves from *their* dependencies within this global system or to revolutionize the economic order. Notwithstanding the New Left and Right analyses of the pathologies purportedly driving the industrialized economies, the LDC's have almost without exception accepted the notion of development and all that it implies in terms of raw materials sales to and capital and technological imports from the West. Furthermore, when there are Third World profits to be made from this relationship in excess of internal development needs, the American economy appears to be a preferred placement for investments.

Obviously there are vulnerabilities in the American essential raw materials position. Thus, apart from the most important case of oil (to be taken up below), perusal of any list of imported industrial raw materials reveals numerous examples of US import levels running at 80, 90, even 100 percent of consumption. But most of these materials are not readily subject to embargo. The sources of supply are dispersed and substitution is in most instances possible if price reaches a critical level. In those cases where substitution is not possible stockpiles are generally adequate to tide over any temporary shortage.³¹

Life could be made unpleasant and more expensive for Americans in the short run but the potential exploiter of American dependencies would have to confront important consequences which might prove less bearable than those imposed on the United States. Perhaps most important are the previously noted financial dependencies of those who export and, presumably, would try to exact advantages from their raw materials position. Notwithstanding their ideological coloration, all Third World raw materials producers have learned a painful lesson from the economic downturn in the industrialized world

occasioned by the first great use of raw materials power by a group of their own. Oil seemed in 1973-1974 the exception to these observations but with time even this crucial, cartel dominated, Western dependency has taken on many of the attributes of interdependency. Moreover, it is not clear that it or any of the other conceivably similar interdependencies are readily subject to decisive Soviet intervention and exploitation.

Oil and the Middle East

The United States gets about 42 percent of its oil from OPEC with Europe and Japan receiving in excess of 90 percent from the same source.³² However, recent discoveries in Mexico, increased conservation, stockpiling, and oil sharing in time of boycott or supply interruption could lower the effects of any future interruptions implied in the above dependency measures. The Mexican reserves have been estimated from around 60 billion barrels (which would place it near Iran) to over 120 billion barrels.³³ Mexican and Alaskan oil, coupled with a conservation program comparable to, say, Sweden's, which uses on a per capita basis 33 percent less oil than the United States, would go some distance in minimizing future oil curtailments.

If an embargo were OPEC inspired and not a function of a hostile power's blockade, further remedies would be possible. One would be a freezing or sequestering of OPEC short- and long-term dollar holdings. After all, some 75 percent of OPEC reserves are held in dollars. Eighty percent of all reserves are held by Saudi Arabia, Kuwait, Qatar and the United Arab Emirates. Twenty-five percent of the dollar holdings are in short-term liquid assets and 50 percent of the long-term assets are in the United States. Recent reports indicate that the trend in OPEC investments is increasingly toward long-term holdings. Moreover, most of Arab investments are managed by American financial institutions (over which there would be government influence in an emergency) as there is some distrust that Arab banks are subject to political and personal rivalries which usually do not beset American institutions.³⁴ Finally, of course, no major Arab military machine, Arab economic development infrastructure or even educational plan can go forward for very long without the active cooperation of the US Government and its citizens. Current development undertakings are so vast that no other state or combination of states could rescue even Saudi Arabia or Iran from the studied indifference or hostility of the United States.

In peacetime, it is hard to imagine any coalition of Soviet power and producer nations conspiring to isolate the American economy even if it were possible to extract benefit from such an effort. If the OPEC states now find themselves caught up in financial interdependencies, how much more so the rest of the world? Most Third World nations are painfully short of reserves, rely on Western commodity preferences and have, in any case, precious little to sell. The more developed LDC's are too conscious of the dangers of courting permanent Western antipathy. Moreover, when the Group of 77 (actually 111) met in Nairobi in 1976, they showed little disposition to side with the Soviets against the West. Rather, most LDC's grouped the Soviets with the OECD states in presenting their demands. In many ways, the LDC's were more hostile to the Russians, noting that the Soviets give less aid to fewer countries than the West. "Trade with the Soviet Union," as one diplomat was heard to complain, "is a one way street." The LDC's are, he pointed out, paid in roubles spendable only in the Soviet Union, not even East European countries. The Soviet goods are shoddy, deliveries intermittent and promises of aid often go begging for performance.³⁵

Producer nations have little of the flexibility that consuming nations have. Most have capital needs which cannot possibly be squeezed out of internal savings no matter how brutally pushed. Barring a rending of themselves from a money economy, most producer societies are inextricably tied to Western consumers no matter how monopolistic their position, how large their reserves or hostile their ideology. No non-Western society has adopted Marxism, and, as a result, refused to sell its wares to the West. Indeed, in Angola, 80 percent of state revenue is provided by Gulf Oil which is aided, in fact, guarded and guaranteed by Cuban troops.

One could argue that once a state adopts a collectivist ideology or begins to identify itself with forces of radicalism, then its pricing policies are likely to become predatory. But in the bauxite industry, for instance, Jamaica was quick to discover that the realities of an elastic demand curve and diverse sources of supply can dampen ideological zeal.³⁶ In the case of oil, one could argue that the history of Libyan dealings with the West demonstrates that a sufficiently motivated and well placed producer society can play real havoc in a way it would not have done had it not been associated with radicalism. But Qadaffi's success can be attributed as much to the proximity of Libyan oil to European markets, its unusually low sulfur content and a foreign exchange position in 1970 and 1971 sufficient to finance 3 years of imports as it is to his ideology.³⁷

Of the two petro-superpowers, Iran and Saudi Arabia, only Saudi Arabia is in a position to deny Western oil and contemplate any respite at all before experiencing financial distress. Iran is simply too militarily and financially dependent on the West to alter course dramatically. If Iran somehow was overwhelmed by a leftist minority, an unlikely event given the current range of the Shah's domestic opposition, it could have disastrous effects for South Africa and Israel. But American leverage in Iran is considerable. Almost all Iranian weapons, military training and the financing of Iranian debt and development programs are American. The cost to Iran is a balance of payments deficit of over \$2 billion a year. A hostile Iranian government turning off Western supplies and blocking the Gulf is militarily conceivable but wants for a convincing political rationale.

The Iranian Navy is probably the only regional force that will soon have the technical capacity to blockade the Gulf. Although what motive Iran would possess, and how long such an effort could succeed in the face of opposition of other regional powers as well as the United States, is open to question. Needless to say, the Israelis and the Saudis would probably take such a dramatic move as a threat to their vital interests. If the move were under Soviet sponsorship, the Chinese would perhaps become alarmed, and in any event, it would be hard to avert an American-Soviet showdown. Finally, as a Senate staff report has explained:

Understanding the umbilical relationship between the supplier and recipient of advanced weapons becomes particularly important in view of the frequently heard arguments that a recipient such as Iran or Egypt can easily "switch" suppliers if it is not satisfied with its treatment by a supplier. Theoretically, this is true, and there are undoubted political advantages in stressing this option; in reality, however, once a recipient has committed itself to a particular supplier for the maintenance of its active combat forces, it can only "switch" at the risk of losing its operational capabilities for a very long time. . . . [An] anti-US regime . . . would find it virtually impossible to maintain the current inventory of US weapons without sustained cooperation with the United States. This might

moderate a new regime's policies. However, if the regime were intent upon eliminating the US role and presence in Iran, the United States could retaliate by bringing Iran's military machine to a virtual standstill.³⁸

It could be argued that a hostile Iranian government, bent on pressuring the West, could sell its oil to the Soviets or East Europe. The Soviets, however, may well not need the quantities the Iranians have to sell (they could, of course, sell the oil to the West) and the only way the bloc countries could afford sufficient quantities of Iranian oil to take up current Iranian production is if bloc countries were provided credits. In any case, one of the last times the Soviets bought oil for Eastern European countries was in 1974 when they purchased Iraqi oil for \$1.80 a barrel and sold it to their East European associates for hard currency, yielding a profit of over \$3 billion—an event which the Iraqis believed not to be in the tradition of fraternal socialism.³⁹

The Saudis are perhaps better situated to interrupt Western oil supplies without having to draw on outside superpower help. But current Saudi leadership is hardly sympathetic to gestures which are likely to cripple the West and give succor to Soviet ambitions. Moreover, Saudi pricing policy is a calculus of what the West can pay and how profits can be optimized over the longest haul. An oil boycott would stimulate retaliation, cripple the growing military, economic and political alliance with the West in the Third World and promote American efforts to move seriously to real energy independence.

Precisely because the Saudis have become assertive in world politics may mean that they have become more exposed to Soviet mischievousness and worse. The Saudis have concerned themselves with events in the Gulf, Africa, the Mahgreb, Pakistan and could, conceivably, ally themselves against a Soviet move based in Iraq, the Horn, Afghanistan, or Yemen which they found militarily threatening. This, in turn, one could speculate, would invite Soviet retaliation. Or, the Soviets might simply find it expedient to put pressure on the West by crippling a Saudi regime in some manner. The problem, of course, is how.

Soviet Military Intervention?

A Soviet military intervention in the Gulf would run a seemingly insurmountable gauntlet of obstacles. To begin with, the balance of interests in the area is asymmetric. To be sure, the Arabian peninsula is nearer to the Soviets than it is to the United States. But it is vastly more important to the United States; and, in any confrontation between superpowers, the balance of interest is likely to determine the tenacity of any defense strategy. A Soviet blockade of the Gulf, it has been estimated, could take as few as 250 mines dropped from the air.⁴⁰ These, however, would soon be cleared in the absence of sustained air support. The current inventory of Iranian aircraft alone could undoubtedly tie down a significant portion of all Soviet tactical air power. Since the Soviets would have little confidence that an airstrike in the Gulf would not be seen as either an opportunity along the Sino-Soviet border or as a provocation to Western European interests, they would be little likely to pour all of their assets into the Gulf area or position a preponderance of them in the Caucasus. They could not do so, in any case, without foregoing any hope of achieving surprise. The bomber aircraft which would lay the mines could make the run from the Caucasus to the Gulf without refueling. But current Soviet fighter escorts could not. If repeated mining with escorts or if a landing of airborne troops were contemplated then escorts would have to fly from as yet unsecured bases in southern Iraq. If the Soviets could not attain early air superiority, then a

resupply of the initial Soviet surge would most likely have to come over land—a 1,000-mile trail from the Caucasus to Kuwait over Persian mountain passes. Even if the Soviets were assisted by Iraq, "roads . . . are rudimentary at best. The road 'net' is nominal . . . water is scarce . . . way stations are nonexistent. Wear and tear on men and material would be immense."⁴¹ And if the Soviets wanted to land men by sea, some experts have said that the speediest way to get sufficient landing craft to the region would be to crate them and fly them to the region.⁴²

The Soviets could of course bring their significant submarine capability to bear on a Gulf blockade. However, Soviet submarines would be thousands of miles from their nearest home port and repair facilities and would be concentrated in locales which would make them relatively easy to locate, given that current accuracies of United States tactical ASW techniques are said to be able to track any boat within 50 miles. Current Soviet practice for refueling diesel submarines at sea includes airdropping jellied gasoline, a difficult task given a lack of air superiority. In short, a massive submarine interdiction campaign in the Gulf does not make sense. A more sensible strategy for the Soviets to interdict Western oil would probably involve plying the open Atlantic or the Cape routes. Even then, however, a geographic fix on Soviet submarines would attend many attacks. Moreover, there are more tankers than submarines and the submarines would, after a time, have to return to port. In so doing, they become subject to the disadvantages attendant to the Soviet Union's geographical location: well-known choke points where it would be relatively simple to locate and eliminate emerging and/or returning submarines.

The Soviets could attempt to mount a conventional blockade with submarines and surface vessels, but here again the lack of air cover becomes crucial.⁴³ The current Indian Ocean flotilla has only about six fighting ships and refueling and repairs are a problem in the absence of reliable in-area basing. In fact, repair and resupply seem to be an endemic problem of the Soviet Navy. In contrast to the United States Navy's one out of three ship deployment abilities, the Soviets reportedly can maintain but one out of six. Furthermore, deployed vessels spend considerably more time at anchor than American vessels and are frequently, in the case of the Indian Ocean task force, observed in tow.⁴⁴

Finally, the whole question of a Soviet blockade of the Gulf may soon be moot, in any case, with the completion of a 750-mile pipeline across the Saudi peninsula connecting the oil fields in the east with the Red Sea north of Mecca. The outlet will be able to feed 1.6 million barrels of oil a day to Europe by Suez. Thus any blockade, when the pipeline is finished, would have to seal the Gulf of Aden, the Persian Gulf and the northern terminus of the Suez Canal (or destroy the canal)—an undertaking that is hard to imagine in any other than all-out global conflict.⁴⁵

The Threat Elsewhere

The only other position comparable to the Persian Gulf in terms of its relation to Western prosperity is South Africa. The United States \$1.7 billion investment in the country represents about 16 percent of external investment in South Africa and American banks hold over \$2 billion in loans.⁴⁶ Great Britain has about eight times this level of investment and the return on it is a critical prop to the United Kingdom's payments position. In addition, South Africa is endowed with vast wealth of which it disposes 86 percent of the world's platinum, most of the world's industrial diamonds, magnesium, vanadium, and nearly half the world's chrome and uranium.⁴⁷ The chrome

situation is perhaps most significant, for as Dr. Earl R. Parker of the University of California at Berkeley has written, "The United States is strategically more vulnerable to long term chromium embargoes than to an embargo of any other natural resource, including petroleum."⁴⁸ Chrome is essential to making hardened steel. There are no known substitutes for chrome and although chrome can be recycled and complex tax regulations could restrict unnecessary decorative use, only some 20 percent of American imports could likely be trimmed. Given current consumption, however, there is about 2 1/2 years' worth of stockpiled chrome. Hence, any boycott would take a number of years to make itself felt.⁴⁹ Finally, of course, about 18 million barrels of oil a day and about one-fourth of European food imports are carried via the Cape route thereby adding yet another crucial strategic dimension to the area.⁵⁰

According to some military planners, an American airborne or seaborne expedition to the Indian Ocean would be critically dependent on a southern African route.⁵¹ Admiral Isaac Kidd, Jr., Supreme Allied Commander of NATO's Atlantic fleet, has recently reported a rethinking of NATO planning to deal with a Soviet presence now apparently permanently deployed off West Africa. The flotilla includes a cruiser, two destroyers, two submarines, and perhaps two landing craft and is congruent with the increasing recognition the Soviets have accorded to NATO supplies, especially those found in Africa.⁵²

In some ways, it could be argued that South Africa is more vulnerable and more critical than the Gulf—and the security of both is not unrelated. Ninety percent of South Africa's oil comes from Iran and the remaining 10 percent from elsewhere in the Gulf. If Iran were to change leadership or found that its oil could not be delivered to South Africa, the South African economy, according to a recent study undertaken for the United Nations, would collapse in less than 2 years.⁵³ Given, however, American strategic and economic interests in South Africa, it is difficult to foresee the United States participating in mandatory sanctions or that we would stand by and watch a General Assembly resolution enforced by a rather modest Soviet capability—even in the unlikely event that the Iranians concurred in a curtailment of South African oil supplies.

In the unlikely event of a blockade by the Soviets, they would find it difficult, to be generous, to enforce a selective embargo. Tankers carry oil bound for many ports and an effort to stop ships bound for South Africa would soon find itself interrupting Western commerce as well. Moreover, the capacity of the Soviet Union to maintain its flotilla on station has been, to an extent, conditioned on the hospitality of Guinea. Sekou Toure has not only balked at building any significant basing facilities despite a visit from as lofty a personage as Admiral Gorshkov, but most recently, he has withdrawn landing rights for Soviet reconnaissance flights which had patrolled United States sea lanes.⁵⁴ Perhaps alternative basing will become available in Angola or somewhere on the east coast. Nevertheless, it is clear that Soviet capacity to project its presence is tenuous.

A more probable threat to South Africa comes from the various guerrilla, insurgent, and hostile armies arrayed along South Africa's northern border. Most military observers, however, have argued that the South Africans can be reasonably sanguine about their defenses in this area. The terrain is open, hospitable to mechanized warfare, and relatively uncongenial to guerrilla activity. The difficulties of coordination of all potentially hostile armed factions are significant as they are rent by ideological and tribal divisions as well as differences in levels of political sophistication. The South Africans, moreover, have even fewer compunctions than the Rhodesians concerning sanctuaries

outside their territory. Perhaps opposition could be led by Cubans. But the 1975 Cuban-South African engagements left Castro's forces bloodied and should be a memory that would give them pause.

Further, for a "pariah state" surrounded by hostile neighbors, the South Africans have invested a surprisingly small amount of their GNP and manpower in defense. The Israelis with a smaller population than the white population of South Africa can field an army of 250,000; under pressure, it is estimated, the South Africans could mount a reasonably sustained campaign with 500,000 troops.⁵⁵ The South Africans manufacture most of their own munitions and their only real liability seems to be air force which is nonetheless more than equal to that of its neighbors at this time. The Israelis have established a close military relationship with South Africa, and are known to be anxious to sell some sophisticated aircraft to the South Africans. Moreover, if South Africa were in danger of being strangled, either by the Soviets or a coalition of Soviet backed associates, it is not unrealistic to expect that the South Africans would resort to atomic diplomacy. Indeed, the South African capability seems to be not unlike that attributed to the Israelis and may well put a ceiling on the conflict and inhibit great powers from synoptic quick fixes in the area.

It is doubtful, therefore, that the Soviets will be able to subdue South Africa by force. Some observers have suggested that what the Soviets could not gain by force might occur as a function of South African incapacity to withstand prolonged isolation. Hence, South Africans, much like the Germans at Rapallo who coordinated their activities with the Soviets, would associate themselves with the Russians simply because they had no capacity to stand alone in the world any longer. A South African association with the Russians, it has been argued, could bring the Soviets "world wide financial domination via a convertible rouble . . . if South African gold were under the domination of the Soviet Union."⁵⁶ A more compelling analysis of Soviet policies, however, yields the conclusion that South Africa (as with the case of Israel in the Middle East) is a useful local irritant which legitimates the Soviet presence in Africa and allows them a voice which, otherwise, might seem strident and irrelevant to the politics of the area.

Soviet influence elsewhere in those areas of the Third World of importance to the United States is no less ambiguous than the cases discussed above. We have noted previously, that despite some Western analysis which sees the Third World as naturally predisposed towards the Soviet Union,⁵⁷ Third World leaders can be quite skeptical concerning the Soviet presence. Thus among the nonaligned nations something of a split has developed concerning Soviet and Cuban involvement in Africa epitomized in the resolution adopted at a meeting of nonaligned states in Sri Lanka 2 years ago which condemned "imperialism, colonialism, neocolonialism, racism and all other forms of foreign domination." The latter phrase was widely interpreted to allude specifically to the Soviet Union.⁵⁸ Even more forthright concerns with Soviet intentions were heard at the July 1978 Organization for African Unity meeting held in the Sudan.

Soviet military assistance seems to have been carefully targeted to maximize Soviet influence, but it is not clear that this activity is invariably crowned with success.⁵⁹ Hence, for instance, to fret about Iraq as a launching pad for a Soviet move against the Gulf is not only to ignore the Herculean nature of establishing a meaningful Soviet presence in the area, it is also at odds with the history and character of politics in the region. For some time now, reliable reports have indicated that Iraq, Iran and Saudi Arabia are considering a collective security pact presumably aimed against the Soviet Union. Iraq

has, even when it is most dependent on the Soviet Union, refused Soviet requests for a naval station and an landing and refitting depot. The Iraqis have never been sympathetic to Communist activity in the army, a fact made abundantly clear in the recently reported purges of Communists from the military.⁶⁰

Syria, perhaps Moscow's only other important associate in the Middle East, was asked for military facilities in early 1977 and refused. Even on the verbal level, the Syrians have refused to back Soviet support for its various clients in Africa.⁶¹ The Soviet loss in Egypt appears incapable of being retrieved for years, although a trickle of spare parts has arrived since 1975. In the Sudan, where the Soviets maintained a large military mission and had hopes for achieving considerable influence in the Sudanese armed forces, the Soviets were expelled in May of 1977. Furthermore, the Sudanese have subsequently become involved against Soviet and Cuban activities in the Horn.

Some fear that Soviet influence in Afghanistan represents more than a traditional addition to the Soviet border glacis, but that it, like Iraq, will become a springboard to control of the Gulf. A multilane highway runs from the Soviet Union through Kabul to Pakistan which could be used to mass troops on the Pakistani border. An American general recently said, "If Pakistan should fall apart, the Russians would have a clear road to the Arabian Sea and the capability to build bases near the exit from the Persian Gulf through the Straits of Hormuz."⁶²

But the Iranians, who subsidize Pakistan to the tune of around \$300 million a year, have been explicit in their warning to Russia in regard to Pakistan.⁶³ There is little reason to believe that they would not make good on their commitment. Furthermore, it is plausible that the prospect of a Soviet dominated Pakistan would compel the Indians to respond in some way, especially in view of the recent change in government and the long-standing Indian desire to see the Indian Ocean free of outside military power.

It may be true, of course, that the Soviet Union's ambition in the Third World, no matter what their current fortunes and limits of capacity, knows no bounds. Certainly their view of their "responsibilities" as the leader in the restructuring of international relations would suggest this.⁶⁴ But whatever ultimate Soviet aims may be, the breakdown of the bipolar world, the diffusion of power, and the rise of power competencies, apart from American or Soviet control, are bound to constrain the reach, if not the ambition, of the Soviet Union in the Third World.

IV. CONCLUSION

Psychologists know that there is a phenomenon called idetic memory. Those who experience it see the past with astonishing luminescence. Some compare this remarkable facility with the viewing of a photo flash which we can see again with bright intensity when we close our eyes. The brutality and carnage perpetrated by totalitarian governments in this century has had a similar effect on those of us in the West who concern ourselves with foreign affairs. We have concluded from the interwar and immediate post-World War II experiences that totalitarian regimes were necessarily aggressive. Their appetites, we feared, grew with the eating and knew no satiation. For the demands totalitarian regimes made were not predicated on objective concerns with security but, stemmed from a peculiar set of needs fueled by a pathological mix of power and ideology. At home, a population needed to be incessantly mobilized for purposes of control and to be diverted from its discontents with promises ever unfulfilled. The Soviets'

militarized domestic structure gave their chiliarism even more force when it confronted opportunities abroad.

Scholars who sketched the etiology of totalitarianism were not political cartoonists. The Soviets have posed a serious threat to Western institutions and values. And if Soviet leaders did not welcome war, they were not loathe to play on Western abhorrence of force. But to argue that such a picture is as appropriate today as it once was would deny that there has been a waning of ideological and political vigor in Soviet society. Yet there seems to be even among the most unsympathetic observers of the Soviet Union, agreement that the Soviet Union is led by an oligarchic gerontocracy little prepared for an approaching succession of power.⁶⁵ Furthermore, this group suffers from not only the normal ossifications of age but also from declining zeal and an entrenched and maddeningly inefficient machinery of state overseeing a national economy with deep inadequacies. Moreover, the fissiparous national tendencies of the Soviet citizenry have accelerated as the Great Russians have become an ethnic minority. Modern ills such as vandalism, alcoholism, and divorce are rampant. And some cynics have claimed that those who look to the Soviet working class are really looking to a contradiction in terms.

Whether some new leadership will be disposed more toward an accommodation with the West than some of the harder line elements is largely beyond Western influence. But by pursuing an unwillingness to assume a cooperative stance with not only Brezhnev's successors but with the current oligarchy as well cannot help but strengthen the hand of those anti-accommodationist factions which virtually all analysts see as playing a role in contemporary and any future Soviet leadership.

It may be, of course, that Brezhnev or his successors, at some time, may regard themselves as being in the same asymmetric relationship to us as we were to them in the Cuban Missile Crisis and, therefore, opt for a military showdown with the United States by attempting to cut off vital resources from the West. But there is no evidence that they have cause for this kind of confidence. Indeed, it is not clear that they can even sustain their position of essential equivalence, for the Soviets apparently have no defenses against the next generation of American strategic weapons, the cruise missiles which, when they enter the next generation, will likely be competent first strike weapons. As Dr. William Perry, Chief of Research for the Department of Defense, put it on 1 June 1978, even if the Soviets "spend tens of billions" on defenses "we will be able to sustain the penetrability of the cruise missile."⁶⁶ But assuming, however, that through a massive effort the Soviets are able to maintain a position more or less equivalent to the United States, perhaps even the Soviets are beginning to realize, as G. A. Arbatov, director of Moscow's Institute of the USA observed, "the further accumulation of military power is not accompanied by an increase in political power."⁶⁷ And on balance, it is difficult to argue that the Soviet Union has experienced any less frustration than the United States over the last decade of superpower interaction in the face of interdependence.

The world will not now be run by Soviet or American management. And the longer Americans restrain themselves from tasks where the legitimacy of their presence is in doubt, the more likely others will concern themselves with regional instabilities. In a world without the rigid certainties of the Cold War, there is a tendency for those whom we formerly cared for and even some who are our nominal ideological adversaries, to care for themselves. Hence, after years of hesitation, the Japanese have accelerated an activist foreign policy in cooperation with China, to the chagrin of the Soviets. The Japanese have been on record for 6 years as agreeing with the Chinese that they are "op-

posed to efforts by any country or group of countries to establish . . . hegemony" in the region. Japan has expanded political contacts with the ASEAN nations, which, themselves are aligned against Soviet power.⁶⁸ All the Soviets have managed in Asia, after 20 years of vigorous activity, is to establish themselves as the chief benefactor of the Vietnamese who, nonetheless, do business with the Japanese and periodically hint at a preference for American aid. No other government in Asia has been willing to associate itself with Brezhnev's periodic calls for a regional defense organization aimed against China.

If the Cubans have managed to solidify Soviet influence in Angola and Ethiopia, they have also served to rally the French, Belgians, Germans, Saudis, Moroccans, and even the Chinese to take the lead in military and peacekeeping activity in the area, not only relieving the United States of a duty it might not be able to perform but, in any case, would admit is probably best managed by others. The Saudis have given assistance to some 50 countries. They have supported moderate states in the Middle East, bolstered the Sudanese and Somalia, and now have shown interest in cooperating with the Iraqis and Iranians in the defense of the Persian Gulf.

In sum, because events slip from American control does not mean that they automatically work to our disadvantage. Neither does it mean, if it is true that we have lost control of events, that events are out of control.

In a world of increasingly diffuse power, others are attempting to manage their own interests in the absence of a predictable American response. It is a process we are not accustomed to and it does have its uncertainties, but we need not fear it and perhaps, after all, we should welcome it.

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**Domestic Priorities and
the Common Defense**

An examination of the potential and commitment of the American society to support an effective defense posture in the coming decade. An analysis of the economic factors inherent in such a commitment, the social implications of civilian attitudes on security issues, and the manpower resources and programs needed to maintain the common defense in a changing strategic environment.

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**Domestic Priorities and
the Common Defense**

**Chairman's Plenary
Session Summary**

Crosby M. Kelly

First, I would like to offer a word to the Chairman of Panel 4, Mr. Stanley, and say that I have never known a case in industrial experience in management but that executives have gotten together and realized that they were totally pessimistic about the outlook. Problems had just proliferated to the point where it would be impossible to "get there from here." The only consoling fact would be to glance over to the competition and find out they had probably just as many problems as you did, if not more. Perhaps that could convert your pessimism to a degree of optimism.

Secondly, I would like to indulge in a few acknowledgments; first, to Dr. Rostow and Dr. King, who provided papers for our panel. Those papers were both well done but also played a very vital role in our discussions. Another acknowledgment I would like to make is a very personal one. That is to General Gard and to Captain McIntyre for the quality of the panel they gave me. Panel 5 was very unusual, with very diverse backgrounds, great qualifications, and wonderful experiences to reach into; and it was certainly a very stimulating experience for me and, I think, for all of our panel to have spent these 2 days together.

But so that I might most accurately represent to you these diverse opinions and diverse conclusions and assure you that we early abandoned not the phrase "essential equivalence," as some others attempted to do, but the phrase "consensus," I have elected, with the help of my rapporteur, to read my report to you rather than to do it extemporaneously.

The deliberations of Panel 5 regarding the resource base that is required to sustain essential equivalence were guided by two assumptions: first, that our defense capability is inextricably interwoven with our economic well-being, with our national sense of purpose, and with our will to pursue that purpose; second, our efforts in ordering national priorities must be carried on with a view to the international interlock that exists among the friendly, major, democratic nations and with a view to the interdependence of their interests.

The first undertaking of the panel was to define the resources necessary to sustain essential equivalence. The panel clearly recognized that the term "essential equivalence" must include a balance of political and economic capability as well as military capability on our part, plus our allies' capabilities, vis-a-vis the multiple capabilities of the Soviet bloc. Further, we should be seeking to maintain this equivalence throughout our

geographical sphere of influence. Such equivalence should mean that we maintain access to those areas from which materials essential to our economic activity come.

We proceeded to identify the resources needed and to describe their application to essential equivalence.

One resource was assets—money. Second, and allied to money, was our industrial base in being, or plant and equipment. Third was our pool of science and technology and its applications through research and development. Finally, the fourth resource was manpower.

Early on, in discussion of these resources, the fear and conviction stated in one of the papers presented to the panel was reiterated to the effect that the current political and economic degeneration of the West threatens serious consequences if allowed to continue unchanged. Our failure to initiate a positive and constructive energy policy should receive immediate correction. Failure to make measurable inroads in our stagnant economy and inflationary situation is fast destroying the confidence of the people in their government leadership.

Concomitantly with these unresolved problems is the problem of unemployment. Another related concern is the need for an equitable relationship relative to the economic activity of other nations—not protectionism, but, on the other hand, an avoidance of government subsidies and dumping.

Failure to solve these problems presents a threat to the political stability of our society. Conversely, presentation to the world at large of a plan and program for managing these issues would restore confidence and release untold private funds for constructive application in our economy, resulting in decreased unemployment, increased GNP, and increased tax revenues for application in part to defense needs.

The panel felt that strengthening our defense capability should and can come from increased productivity which, in turn, should come from solving the energy problem or from the production involved in major attacks on environmental problems or in meeting crying needs, such as those which exist in our national and international transportation systems and similar public sector areas. Additionally, increased productivity would be both possible and probable were we to restore our percentage of GNP spent on research and development (R&D) to what it has been historically.

Increasingly in recent years, the output from our research and development effort has not equated with our input to that effort. We have suffered a deterioration in our risk-taking as a consequence. Contributing to discouragement of risk-taking has been the meteoric burgeoning of regulatory activities, which, in their excesses of late, have not only been costly and conflicting, but have tended to discourage and demoralize the investment of capital in research and development. The general feeling of the panel was that the country is ready to tolerate and pay for an increased expenditure for R&D in both the civil and military sectors.

Specific ideas that found their way to expression in our deliberations included the view that there might be a greater support of R&D in the private sector from the government, considering that costs and risks are greater than ever before. But these cost and risk factors could be alleviated by government collaboration through investment credits and through adjusting antitrust regulations to allow for trans-company pooling of R&D activities.

In our review of the industrial base and its applicability to the maintenance of strategic equivalence, we found an erosion caused by the rise of replacement costs. The result has been a technological obsolescence of the production equipment reserve now in storage. In a larger sense, government regulations have generated a debilitating effect on investment in modern industrial capacity and in modernization of industrial capacity. The possibility of a veritable crisis in private sector leadership is real as this leadership finds it is being surrounded by regulation. It was pointed out that the rate of increase in productivity of American industry has been cut in half by regulatory activity. The appeal was made for this country to regain its sense of common priorities and to modify the pressure tactics of special interest groups in order to build the atmosphere of confidence that business leadership needs.

The panel also quickly recognized the complexity of the manpower issues which affect our strategic posture. It was pointed out that the all-volunteer force policies of today continue to be in transition from the time of the draft. The Department of Defense is just beginning to take management actions to improve a serious shortage in the Army's Ready Reserve. The panel commended this effort and also urged immediate action to create a standby conscription system where none now exists for use in a future emergency.

The efficacy of present policies to sustain an active military force of about 2 million people was questioned closely on the basis of cost, social acceptability, and force readiness. There clearly is room for further improvement in the all-volunteer approach before we despair of its meeting our strategic needs. Like the other elements of essential equivalence, the volunteer Armed Forces are linked to the need for a vigorous economy. If continued economic deterioration occurs, there will be abundant unemployed manpower available for recruitment, but the cost may be politically prohibitive. With continued stagflation and the young work force projected to be 20 percent smaller in the 1980's than it is today, the outlook for an all-volunteer system meeting defense needs in that time frame is cloudy indeed. However, with increasing productivity and even with full employment, we should be able to afford the monetary and educational incentives and to create a positive attitude toward service which may sustain the present policy, albeit with evolving management methods.

In the discussion of military manpower issues, some expressed the view that these are the most pressing challenges to the maintenance of essential equivalence of our Armed Forces.

In addition to the economic and military capabilities requisite for maintenance of essential equivalence, Panel 5 expressed concern about the will and sense of purpose of the people vis-a-vis these issues. Clearly, concrete and quantifiable elements in our society can be neutralized by such subjective factors as esprit and determination.

In summary, the whole question of the links between the economic base and military strategy centers on four propositions:

- One, a weak economic base may increase military requirements by making us more dependent on vulnerable overseas resources and by creating a perception of our weakness by hostile powers.
- Two, failure to deal with economic problems will increase the political and social vulnerability of the United States.

- Three, failure to meet these challenges will divert the interest and will of the people to meet military threats.
- Four, military strength is a component of economic stability in that it reduces uncertainty concerning access to raw materials and markets abroad.

All of these factors must be viewed in an alliance context, not in the context of our country standing alone.

To make possible adequate military support for our national interests, we must stop the excessive reliance on energy imports, have a clear energy pricing policy, resolve the energy environment trade-offs, and maintain stability in our energy-critical foreign relationships. Further, we must work to offset inflation by increasing productivity and by reducing the wage-price push on inflation in ways equitable to both labor and the consumer. Hopefully, price increases could be made to correspond with productivity.

To resolve selfish interests, such as conflicts found in the labor-management, wage-price arguments and the conflicts between environmentalists and industry in the energy production and transportation areas, we appealed for the investigation and consideration of the establishment of some form of arbitration capability that will work to resolve these complex issues without their being forced to costly and time consuming judicial resolution. In this regard, the panel commends the ongoing activity at the Center for Strategic and International Studies of Georgetown University, where resolution of the conflicts between the coal industry and environmental interests has been underway with very promising preliminary results over recent months. However, in view of the facts that economic problems cannot or at least probably will not be solved in the immediate future, and that a very real threat to our economically essential raw material resources and transportation lifelines exists, we firmly agree with the contemplated 3 to 4 percent real growth in defense spending. With less and less of a percentage of GNP being spent on our military capabilities in the past 10 years than in the earlier period following World War II, and in view of the increasing percentage of defense expenditures being voted perforce to personnel costs, the panel believes that these increases in total defense effort are imperative. Essentially, however, we commend a maximum effort in that potentially most cost-effective area of all: arms control and reduction.

In the critical area of manpower management and deployment, the panel commended the progress that has been made in converting to all-volunteer forces but cited that clearly our military manpower strategy is not adequate to meet perceived requirements, particularly in the Reserve Components today and in the event of a major emergency. This will be the case more and more in the future. The problems needs vigorous exploration of all alternatives appropriate to military manning. A comprehensive military manpower strategy sensitive to social and economic implications is badly needed today.

The panel expressed deep concern about the fact that there is no contingency backup draft plan. Continued exploration of national service schemes, which might stimulate the spirit of volunteerism, is encouraged so as to ameliorate the present coercion of circumstances that is experienced by an important segment of the present military population. Since our national security is inextricably intertwined with the well-being of other nations, there was also expressed the need for some statement of national purpose that could provide a sense of leadership to a troubled nation.

Thank you.

Domestic Priorities and the Common Defense

Rapporteur's Report

Colonel F. Whitney Hall, USA

INTRODUCTION

The members of the panel recognized the broad scope of their charter to assess domestic factors as they relate to essential equivalence. To guide the discussion, a few central questions were posed at the outset of panel deliberations:

- Can the United States support a strategy of essential equivalence? At what cost? What compromises are necessary to do so?
- What priorities for resource allocation are in order to sustain the military balance in light of a changing situation?
- What manpower base is needed to support defense needs?
- Is the public aware of these problems? What is needed to attain a consensus to support their resolution?

These issues were discussed by the panel in sessions which considered money, the industrial base, technology, and manpower. Throughout the discussion, a consensus existed that strategic deterrence or essential equivalence with the USSR rested on a foundation more broad than that provided solely by ready armed forces. The economic vigor and political will of the West, led by the United States, were accepted by all panelists as essential to our strategic purposes. The sense of the panel was that our economy, and consequently our political and social cohesion, both domestically and within the Western Alliance, will be exposed to dangerous pressures in the years immediately ahead. Degenerative resource problems, with energy the most pressing of these; a declining investment rate and reduced rate of growth of GNP; a reduced proportion of GNP allocated to military purposes; and, contributing to all of these, a drifting sense of public purpose, combine to present a formidable challenge to the West's leaders. A theme the panelists returned to repeatedly was the need to generate a sense of purpose and confidence which, it was felt, could lead to successful resolution of the problems we face. The panel recognized that the Soviet Union itself is not free from problems of energy investment, demography, and political malaise, but the panel also noted that the ills in the USSR do not necessarily benefit global stability.

MONEY AND ESSENTIAL EQUIVALENCE

The economic dimension of essential equivalence was described in terms of capabilities to expand production and to restrain inflation. It was agreed that real growth

of GNP in excess of 4 percent per year was required in order to meet employment needs and to provide resources to increase real growth in the defense budget by 3 to 4 percent. A strong growth in real GNP was held to be the first step toward dampening the rate of inflation.

Inflation was described as a threat to Western cohesiveness and to the domestic political system. No dominant cause of inflation was identified; instead, it was seen as driven by an all-pervasive lack of confidence which led business and labor to set prices and wages high enough to offset future inflation, thereby confirming their prophecy that more inflation would occur. Large deficits in government spending were denounced as inflationary, yet in many respects Keynesian monetary and fiscal interpretations of inflation were rejected by the panel. It was pointed out that external factors such as a 160 percent increase in the price of primary products in the period 1972-1974, and wage increases which have exceeded productivity increases, also have contributed to inflation in recent years. The panelists generally expressed a view that a policy to dampen inflation by increasing productivity would be desirable but difficult. An alternative approach in the form of an incomes policy was considered carefully. Most in the group found aspects of an incomes policy approach worthy of exploration, but that a major effort of this sort would not be either feasible or desirable in today's political climate.

Energy and the balance of payments were identified as important elements of any policy to hold down inflation. A program of investment in energy, transportation, and pollution abatement was discussed as a means to increase productivity. Alleviating dependence on oil imports also would move toward reducing the balance of payments deficits which are a source of declining confidence in US leadership by the Western industrial powers. In the long term, investment in energy, transportation, and pollution abatement was expected to pay off in increased GNP and dampened inflation. The panel discussed the difficult political and economic issues that would have to be resolved in order to transform this policy into effective programs.

Within the context of inflation, energy, and unemployment, the panel expressed concern that the growing pressures for protectionism in international trade would continue to weaken bonds of confidence between the Western nations. Nontariff barriers to trade were identified as a major impediment to US sales abroad. An elaborate layering in the Japanese distribution system was cited as an example of a structural barrier to US goods being fully competitive in the Japanese market. Nevertheless, widespread protectionist measures in the United States were rejected in favor of restrained and carefully chosen selective measures to insure fair competition.

INDUSTRY AND ESSENTIAL EQUIVALENCE

Discussion of US productive capacity as an element of national security surfaced information that the rate of investment in plant and equipment has been declining in recent years. The facts that a smaller proportion of industry produces defense items now than in previous post-WWII decades and that standby defense industrial capacity has generally become obsolescent were analyzed. The general view of the panel was that the contribution of the industrial base to our strategic posture requires improvement in terms of modernization and of planning to convert quickly to war production in an emergency.

Included in discussion of the industrial base were factors which inhibit the private investment that would result in modernization and expansion. The underlying issue again

was that of confidence by investors to commit their funds and by management to accept the risks inherent in building or modernizing plants. It was noted that the annual rate of increase in productivity has declined from about 3 to 3.5 percent to 1.5 percent largely due to 3 factors: pollution control measures, the Occupational Safety and Health Act, and security measures. The panel members supported the goals of government regulatory activity, but they expressed concern about high costs generated by numerous regulations which were often contradictory, obscure or arbitrary. The decline of foundries in the United States was singled out as an example of the difficulties of some small industries to survive in an excessively regulated business environment. The costs of conforming to the recent flood of regulations also are an important element of inflation, according to some panelists. Inflation and an unsettled international economy also were discussed as factors which inhibited expansion of plant and equipment.

The panel described two specific areas of endeavor which would contribute to creating the atmosphere needed for vigorous modernization and expansion of industry by private enterprise. One proposal was to rationalize the tax system which now rewards the person who does not save and invest, with the result that the personal savings rate is much higher in some other industrial states, Germany and Japan for example, than it is in the United States. A second specific proposal mentioned was increased government-business collaboration in enterprises which require massive investment and high risk. Energy and transportation were mentioned as two areas which will require government and business to work together.

TECHNOLOGY AND ESSENTIAL EQUIVALENCE

Investment in research and development has declined from 3 percent to 2 percent of GNP in recent years. In addition, defense needs receive relatively less attention in the Nation's total research and development effort than they have during most of the post-WWII period. The panel agreed that maintaining a technological lead is an important factor for sustaining essential equivalence. The same factors which generate uncertainty and discourage investment in plant and equipment also discourage private investment in research and development. Regulatory activity was singled out as a particularly costly and inhibiting factor in developing new products and technologies. One panelist observed that the expense of major technological research by industry usually does not pay for itself in the near term. Such research also is expensive and therefore is approached with caution by business. Similarly, costs of major new weapons systems are so high that only a very few can be introduced in any given fiscal year. Defense must target most of its research and development funds, just as industry does, on those few projects which promise a short-term return on the investment. The sense of the panel was to encourage an enhanced research and development effort in both the civil and military sectors. The panel specifically recommended that greatly strengthened organizational coordination is needed at the national level. The group discussed the utility of an organization with a role at the national level somewhat similar to that filled within DOD by the Defense Advanced Research Projects Agency. In a broader sense, creation of a climate for increased investment and rationalization of regulatory restrictions were seen as necessary for stimulating technological innovation.

MANPOWER AND ESSENTIAL EQUIVALENCE

The panel confirmed that well-manned and ready active duty armed forces formed a vital part of our strategic deterrence. It also discussed the reserve components of the armed forces and other sources of military manpower, such as conscription or voluntary national service, in the context of essential equivalence. The panel discussion centered on four issues concerned with the transition of the armed forces from conscription to a volunteer manpower system:

1. The Army Individual Ready Reserve, the pool of trained soldiers who are not organized in reserve units, but who would be called as fillers in the event of a major war, is shrinking in size. The panel agreed that overemphasis on "short-war" considerations or misplaced budget priorities could not be allowed to undermine reserve posture. The reserves were recognized as an essential part of our strategy to sustain deployed forces. The panel was encouraged by a description of measures being taken by the Department of Defense to improve the capability of the Individual Ready Reserve.

2. Some of the panelists were not aware that the United States no longer maintained a standby conscription system. The feeling of the panel was that a conscription system would be needed early in any major conflict and that legislation to create a standby system warranted prompt attention. In addition, it was pointed out that creation of a standby authority would signal our public support for defense.

3. The panel examined at length the issue of socioeconomic representation in a volunteer armed force. It was noted that the Army is proportionately more Black in racial composition than is the population at large. The panel expressed various judgments concerning this fact, but reached the conclusion that representation of groups in the force during peacetime was not the most important aspect of the question. Panelists pointed out that the armed forces are a traditional and constructive avenue historically taken by various minority groups to improve their circumstances. The capability of the force to fight was confirmed as the primary concern. The panel did question the social and political acceptability of any one racial group or economic class experiencing greatly disproportionate casualties in time of war. Panelists suggested that under some circumstances an unrepresentative armed force could act as a constraint on US foreign policy options.

4. The high cost of the volunteer force was viewed as an issue because personnel cost increases required cuts elsewhere in military procurement, operations, or training. It was felt that the armed forces must remain at approximately the present strengths in order to sustain essential equivalence despite the fact that personnel costs would remain high. The preferred solution to meeting high personnel costs by DOD was to expand the GNP and to raise the proportion of GNP available for defense needs to 6 percent.

In concluding its discussion of the All Volunteer Force, the panel acknowledged the difficulties that will be faced in the near future because of costs, social representation, and a declining age cohort from which to recruit young soldiers. Nevertheless, the conclusion was reached that improvements in the volunteer system should be given an opportunity before fundamental policy changes are made. Prompt action was recommended concerning the individual ready reserve and the need for a standby conscription system. In the event that modifications of the present recruiting system do not sustain required manpower levels, forms of voluntary or minimum compulsion national service were discussed as alternatives. In any circumstance, manpower was viewed

as a constraint on our forces, but one that can be overcome in order to sustain essential equivalence. A coherent manpower strategy is needed to assure that this is done.

SUMMARY

The panel considered stagnant economic growth, inflation, insufficient research and development, energy, the condition of the industrial base, and manpower considerations all as essential parts of our overall national security posture. Meeting all these needs is dependent on the vigor of the economy. This, in turn, was seen by panelists to depend on public will and leadership. The panel was encouraged by recent trends for public support of a strong defense which should permit 3 to 4 percent real growth in defense expenditures. In a larger sense, it was noted that a widespread understanding of US strategic aims does not exist, nor is there sufficient public consensus to deal effectively with the degenerative conditions in the West's economy. The panel discussion concluded, therefore, with public confidence and leadership singled out as the foundation elements to build the domestic strength that is essential for our national security.

Competing For Resources In A Two Trillion Dollar Economy

Walt W. Rostow

I. INTRODUCTION

There is, in a sense, something a bit odd about the central theme of Panel V: the competition for resources. After all, right now we are, as an economy, suffering from idle industrial capacity, excessive unemployment, and an abnormally low level of investment. The average level of capacity utilization in United States manufacturing during the first quarter of 1978 was 82.2 percent; for steel, the figure was as low as 80.1 percent. Eighty-seven percent capacity utilization is a typical figure for a peak year over the past two decades. The average level of unemployment is running at about 6 percent; but this national average conceals something like a 2 percent spread between the Northeast and industrial Middle West on the one hand, the Sunbelt and energy-rich Mountain states on the other. Moreover, as we all know, minority unemployment runs about twice the national average and teenage unemployment among non-whites was a truly frightening 40 percent as of March 1978.

Under these circumstances, one might expect a gathering of this kind to consider how this economy might resume regular full employment of human and physical resources and rapid sustained growth. And, as shall emerge, I, at least, regard regular and rapid growth as the key to the resolution of our problems of allocation.

But, despite the existence of idle capacity and idle manpower, there is already an allocation problem. The government is constrained in stimulating the economy—in useful or less useful directions—by the fear of inflation, a fear enhanced by the unhealthy condition of the dollar in a world of floating exchange rates. And my first point is that there is no way to cope either with the problem of unemployment or the problem of allocation without learning as a society how to conquer inflation.¹

Aside from inflation, there is another constraint on government outlays. Over the past 5 years the real income of the average citizen in the advanced industrial nations has experienced slow growth, at best. In the United States, for example, real disposable income per capita expanded at an annual rate of only 1.4 percent between 1973 and 1977 as opposed to 3.7 percent for the period 1969-1973. Under such circumstances, there has been a kind of taxpayers revolt. It was one thing to permit government to siphon off a part of a rapidly rising level of real income; it is quite another matter when real income itself is expanding slowly and erratically. Understandably, the citizen wishes to retain for private purposes the marginal dollar.

So much for the constraints imposed by inflation and the taxpayers revolt. I shall come back to them briefly later; but, for the moment, I shall proceed on the view that if we as a nation actually faced up to our multiple problems we would indeed confront an authentic allocation problem. That, I take it, is the view underlying the theme of Panel V; and I share it.

In fact, I shall refer to three distinct allocation problems:

- The problem of allocating investment resources among key sectors where degeneration is now occurring; e.g., energy, railroads, pollution control, soil conservation, water development, etc.
- The aggregate problem of the investment rate; that is, the allocation of resources to investment versus private consumption and government expenditures for goods and services.
- The problem of allocation to military purposes.

I shall have something to say about each. But the place to begin is with the present state of the economies of the advanced industrial world and with the kinds of policies which might move them back to paths of rapid sustained growth, without which none of our allocation problems is likely to be satisfactorily solved.

II. THE ROUTE TO RAPID GROWTH AND THE ALLOCATION PROBLEMS IT POSES

Except under circumstances of major war, democratic nations generally increase their allocations for public purposes by siphoning off a proportion of the increment to real GNP. Between 1961 and 1968, for example, real GNP in the United States rose at an annual rate of 4.8 percent; per capita disposable income at 3.5 percent; but the proportion of GNP allocated to welfare purposes was increased from 11 percent of GNP to 14 percent. (Incidentally—and contrary to a widespread view—the proportion of resources allocated to national security purposes on balance did not rise during the 1960's: the figure was 11.0 percent in 1961, 10.7 percent in 1968.)

The rate of increase in real GNP depends (leaving demographic factors aside) on the level of investment and the rate of increase in productivity. Right now the whole Western world is suffering from an investment shortfall, as Figure 1 indicates. As for productivity, the United States began to fall off its normal post-1945 productivity curve in the second half of the 1960's, as Figure 2 indicates. The rate of increase in output per man-hour (a fair index of productivity) has, in recent years, moved erratically, averaging a bit over 1 percent per annum lately as opposed to the 4 percent per annum rate of the period 1960-1965.²

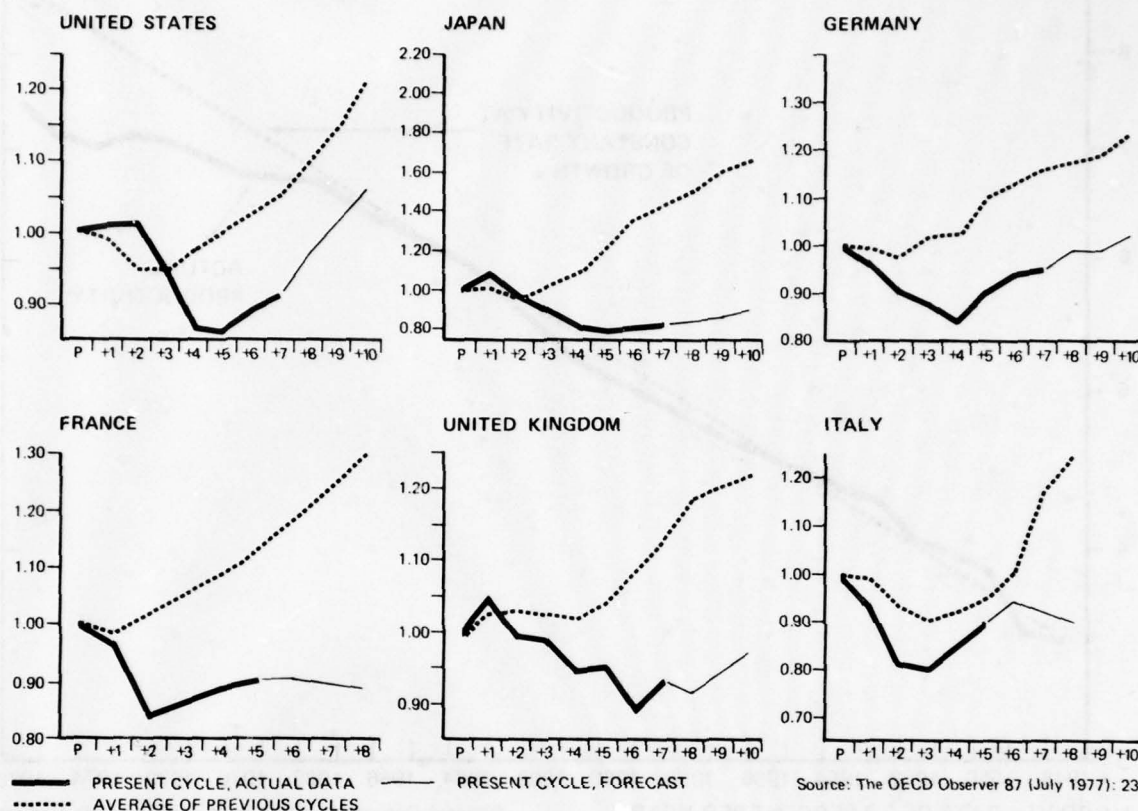
What, then, is the reason for this slowdown of growth in the advanced industrial world? Why the systematic investment gap exhibited in Figure 1?

The current investment gap flows from the dynamics of the great global boom which followed the Second World War. In the 1950's and 1960's the extraordinary momentum of Western Europe and Japan was rooted in the rapid diffusion of the private automobile and durable consumer goods, as well as in the mass migration to suburbia. A way of life hitherto associated with North America came to suffuse all the advanced industrial democratic states; and along with it came virtuosity in a group of technologies in which the United States had hitherto enjoyed a comparative advantage: automobiles themselves, strip steel, refrigerators, plastics, petrochemicals, electronics, and all the rest. In

Figure 1

CYCLICAL BEHAVIOR OF NON-RESIDENTIAL INVESTMENT IN SIX MAJOR COUNTRIES, 1955-1978

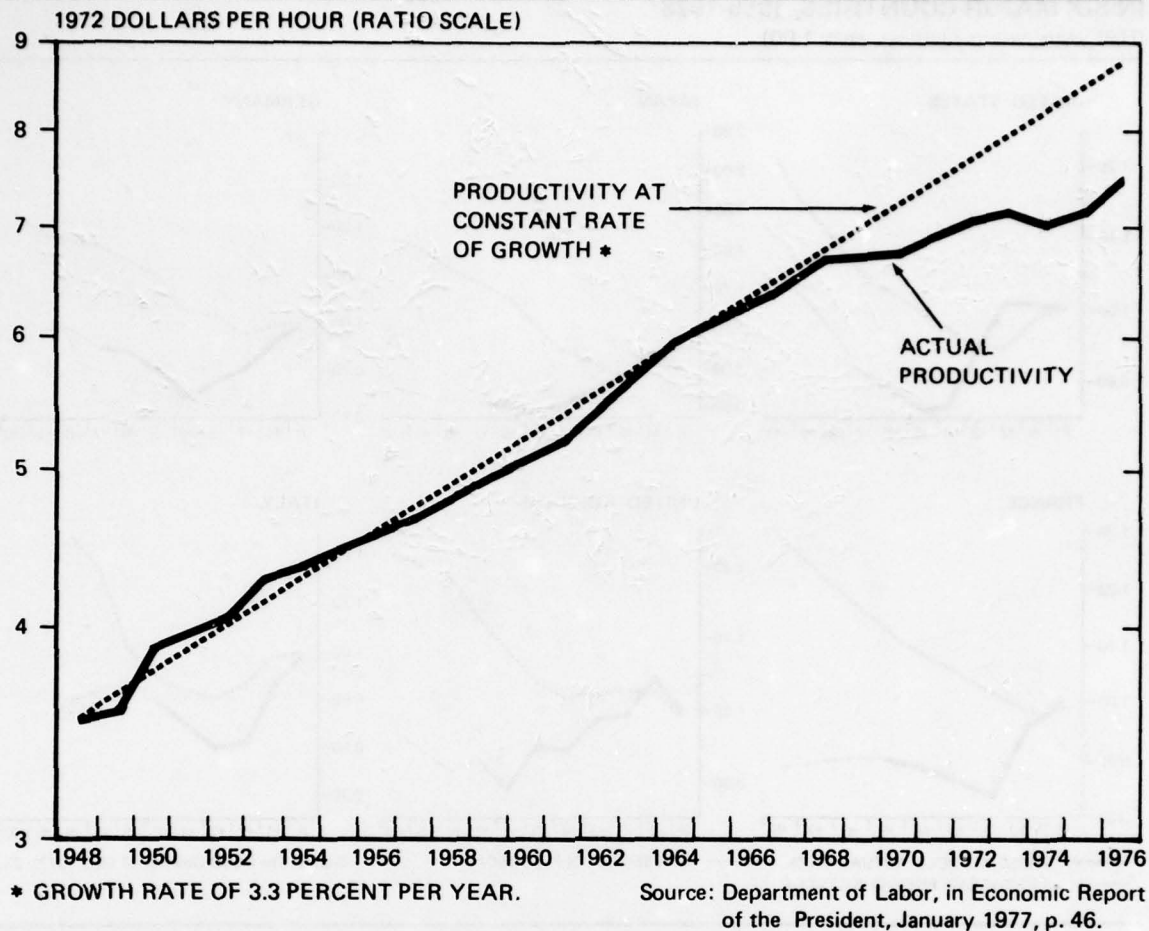
(Half years, volume indices, peak 1.00)



addition, public and private expenditures enlarged rapidly for certain services; notably, higher education, medical care, and travel. The Mediterranean became at last accessible to the European worker and his family, not merely to the upper middle class; for Americans, travel abroad increased at an annual average rate of 12 percent during the 1960's, trips to national parks at 8 percent.

The process was driven forward by a remarkable rise in real incomes. Real incomes in Europe rose not merely because technologies, long known, were being at last applied with efficiency on a large scale, but also because the relative prices of energy, food, and raw materials had fallen and remained low after 1951. For example, the terms of trade for the developed market economies of Europe rose from 85 in 1951 to 95 by 1958 and stood at 105 in 1972, on the eve of the explosion of grain and oil prices. A 24 percent improvement in the terms of trade over 20 years is a mighty powerful force in elevating real income. The terms-of-trade experience of North America was similar over these two decades; but real income per capita rose more rapidly in Western Europe than the United States, mainly because Europe absorbed technologies already installed on a large scale across the Atlantic. Japan, with a backlog of unexploited technologies available larger than that of Western Europe, moved forward with even greater elan, strengthened in the effort by smaller allocations of resources for military purposes, larger allocations to productive investment.

Figure 2

PRODUCTIVITY IN THE PRIVATE BUSINESS ECONOMY

In economists' jargon, the accelerator was the catalytic force which drove forward this majestic boom; that is, investment expanded as the result of rising expenditures for consumer goods (including social services) by 98 percent. Britain chose to sustain its level of consumption (including public services) at the expense of investment, productivity, and its rate of growth.

On a world basis, the price of primary products as a whole rose by about 160 percent between 1972 and 1974 and has oscillated at about that level over the past 4 years. Within this category, the price of fuels rose by over 300 percent between 1972 and 1974, rising slowly thereafter. But the price of manufactured goods in world trade rose by only 44 percent between 1972 and 1974, at about 6 percent per annum thereafter. The upshot was a sharp deterioration in terms of trade for the advanced industrial economies between 1972 and 1974, somewhat mitigated in the next 4 years when the relative price of OPEC oil actually declined, since it was denominated in terms of a deteriorating dollar. In the case of Britain, for example, the terms of trade stood at 126 in 1972 (1975 = 100), 92 in 1974, 105 in February 1978. In 2 years, Britain was forced to absorb a 27 percent worsening in the terms of trade; and as of 1978, it was still surrendering perhaps

17 percent more exports for a unit of imports than was the case in 1972. This deterioration in the terms of trade is one factor which turned off the engine of the postwar boom by slowing down the rate of increase in consumers' real incomes and damping the operation of the accelerator.

But that was not all. The initial rise in food, raw material, and fuel prices, in 1972-74, set off a round of money wage increases that brought on, as we all know, a painful passage of double-digit inflation in the OECD (Organization for Economic Cooperation and Development) world. Understandably, but fruitlessly, the unions sought to shield real wages from the price convulsion. Faced with a shocking deterioration in balance of payments caused by the rise in oil prices and the general decline of the terms of trade, faced also by the second-stage booster to domestic prices caused by extravagant money wage increases, governments sought short-run respite in policies of fiscal and monetary restraint. The resulting severe recession and rise in unemployment further diminished real incomes and damped the working of the accelerator.

There was yet another factor at work. The leading sectors of the expansion of the 1950's and 1960's were energy-intensive; notably, the automobile and durable consumer goods. Therefore, the disproportionate rise in energy prices struck these sectors with particular force, depressing them even further than they would have been depressed in any case by the deceleration or decline in real incomes.

Finally, as these forces affected private real incomes, there was, as noted earlier, a revolt by the voters of the advanced industrial democracies against a continued expansion of public services.

Without the built-in stabilizers created during the Keynesian era, the world economy might have plunged into a depression as severe as that of the 1930's under the impact of these multiple shocks. What happened, of course, is that the sharp recession of 1974-1975 gave way to a limited and unsatisfactory recovery. The OECD Secretariat, as of the end of 1977, predicted for 1978 something like a 3-1/2 percent growth rate for OECD Europe; 6 percent unemployment; over 8 percent inflation. For Japan, the expected growth rate is about 6 percent, not much more than half its average performance down to 1973.

The proximate reason for sluggish growth and high unemployment in the OECD world is, as noted earlier, the low level of investment. The direct and indirect effects of the shift in relative prices since the end of 1972 have damped the rise in real income and weakened the operation of the accelerator. Put another way, we live, in Paul Samuelson's phrase, in a post-Keynesian age. We cannot build the next stage of rapid growth in the OECD world on the further rapid diffusion of private automobiles, durable consumer goods, suburban houses, and enlarged public services. It is clear that, without an alternative route to expansion, the OECD world is caught in a trap as real as that which gripped Western Europe in the 1920's and which engulfed North America and most of the rest of the world in the 1930's. The levels of unemployment are not as high as they then were, nor the human distress as acute. But chronic stagflation, which has persisted now for 5 years, is corroding the social and political life of the advanced industrial societies in ways which might prove as dangerous to peace and stability as the more acute economic breakdown of the interwar years—a point I shall argue at greater length below.

What, then, is the route to sustained full employment over the next generation? For the United States, the answer is clear and would be self-evident if the vision of the mainstream economists, public servants, and politicians were not clouded by now misleading neo-Keynesian concepts. The United States is suffering from a series of degenerative resource problems; that is, problems which will be worse next year than this year unless corrective action is taken in the form of enlarged investment in certain particular directions. Those problems include: rising oil imports; a decaying rail transport system; water supply and soil erosion problems which threaten the American food surplus; air and water pollution problems; urban degeneration; a slackened rate of productivity increase; and much obsolescent industrial plant, notably but not exclusively in the Northeast and industrial Middle West. In addition, I am convinced the United States ought to increase its investment sharply in research and development.

I recently undertook to measure roughly the contribution to sustained full employment that an effective national energy program might make in the United States.³ An effective program was defined as one which would bring United States oil imports down to 6 million barrels of oil per day by 1985—a minimum required target if the OECD world is to avoid risking a cataclysmic crisis in the 1980's. I concluded that, depending upon whether infrastructure outlays are added to plant and equipment requirements, US investment for energy production for the years 1977-1985 would be \$770-1,160 billion (in 1976 dollars); and for energy conservation, \$200-365 billion. Roughly speaking, a doubling of the proportion of energy-related investment to GNP is required: from, say, 2.7 percent of GNP in 1974, to an average of, say, 5.25 percent over the whole period 1977-1985. The investment gap in the United States, preventing a return to high sustained growth rates, was estimated at about 1.7 percent of GNP. In short, an effective national energy program would, in the United States, match or exceed the investment gap and bring that economy back to sustained full employment.

There are no reliable estimates of investment requirements in the other degenerating sectors except for air and water pollution control. Outlays for that purpose in the United States are expected to rise from 2.1 percent of GNP in 1975 to 3.1 percent in 1984. From fragmentary data on transport, water, and soil erosion investment requirements, I conclude that, when the resource issues are confronted, the American problem will not be sluggish growth but excessive investment requirements and the need for priorities.

Reverting again to economists' jargon, the driving force in the next sustained American expansion should be the multiplier; that is, an expansion of income caused by increased investment in resource-related fields. A rise of incomes thus set in motion will, of course, induce further investment; but the appropriate dynamics for the 1970's and 1980's is quite different from that of the 1950's and 1960's. In a sense, we are back in the pre-1914 world where growth was driven forward in the first instance by investment on the supply side; for example, by investment in railroads, steamships, new technologies in metals and chemicals, the opening up of new areas, and sources of food and raw materials.

So far as the United States is concerned, I am confident that authentic investment requirements in resource-related fields exceed the levels of investment required for sustained full employment over the next decade and would require the setting of priorities. And this will prove to be the first of our allocation problems unless we continue to raise our investment rate from its present level of about 15 percent of GNP.

I am less confident about equivalent orders of magnitude for Western Europe and Japan. For example, I am aware of no estimates for energy-related or pollution control investment requirements for Western Europe and Japan comparable to those for the United States. But if OECD Europe is to expand its energy consumption between 1974 and 1985 from 24 million barrels a day of oil equivalent (mbdoe) to 33, while reducing oil imports from 14 to 11, as the OECD counsels,⁴ it is evident that massive investments in energy production and conservation are required of an order of magnitude similar to those required in the United States. Western Europe evidently also requires large increases in investment to contain air and water pollution; but its water supply, acreage rehabilitation, and rail transport needs are probably markedly less than in the United States.

On the other hand, parts of Western Europe (notably, Great Britain, but some other countries as well) face an investment requirement usually discussed in the United States under the rubric of regional problems; that is, the modernization of obsolescent industrial plant. In fact, there is a good deal in common between the problems of Britain and those of the American Northeast and industrial Middle West, except that Atlantic offshore drilling has not yet yielded an equivalent to the time-buying flow of North Sea oil.

Problems with industrial plant, on both sides of the Atlantic, can be, broadly, of three types: (1) sectors which have fallen behind their counterparts in other advanced industrial countries due to relative deficiencies in investment, research and development, management, or the efficiency of labor (e.g., British motor vehicles); (2) sectors which are losing out to exports from developing countries as the latter come to generate equivalent efficiency with lower wage rates (e.g., United States shoes and textiles); and (3) sectors which are experiencing chronic idle capacity (e.g., shipbuilding and steel, virtually everywhere). In the latter case, it is important to distinguish situations where the marked deceleration or decline of a sector is likely to be a long-run phenomenon (e.g., oil tankers) from cases where excess capacity may be a transitional phenomenon, resulting from the slowness of the adjustment of the OECD world to the price revolution of the past 6 years. Steel, for example, may prove to be such a case. Less steel may flow to the motor vehicle industry in the decade ahead, but a compensatory demand may emerge as investment in energy conservation and production quickens. Neither in the industrial regions of the American North nor in Western Europe will we be able correctly to distinguish structural from cyclical cases of idle capacity until the OECD regains rapid growth on the basis of enlarged investment in resource-related sectors.

The simple point to be made here, however, is that investment in the modernization of industrial plant and, generally, to increase productivity is yet another category requiring expansion in the years ahead. A recent estimate (London *Economist*, May 13, 1978) suggests, for example, that £100 billion investment in British industry is required to match Japanese capital assets per worker.

My general proposition is, then, that there are ample opportunities to close the investment gap which bedevils the OECD world; and, indeed, severe resource-related problems in national economies and in the world economy as a whole will worsen unless enlarged investment flows are addressed to them. The probability is that, in dealing with these problems, priorities will have to be established, since additional investment requirements almost certainly exceed the present investment gap; and, in the case of the United States, we shall probably require some rise in the proportion of GNP invested.

III. THE STRATEGIC MEANING OF STAGFLATION AND THE ENERGY PROBLEM

What is the strategic meaning of the situation for which I have tried to offer analysis and prescription?

Put bluntly, I would argue that, if something like the shift in economic policy I commend does not occur, the Western world faces the danger of political and strategic disintegration. For the moment, Britain is enjoying a period of remission due to the flow of North Sea oil, and the United States, due to the flow from Alaska; the recent election has bought a little time for the democratic forces in France; and Germany has managed to keep both inflation and unemployment within tolerable bounds. But the halving of Western European growth rates has produced two dangerous developments.

First, the acute economic problems of Southern Europe. One of the most heartening phenomena of the 1950's and 1960's was the rapid economic and social progress of the countries along the northern rim of the Mediterranean: from Spain and Portugal to Turkey. That process was related in three separable ways to the dynamism of Western Europe: Western Europe purchased the products of Southern Europe; drew off large numbers of Southern European workers who remitted part of their wages; and provided large tourist revenues. All three sources of income have now been reduced. In the meanwhile, these countries must struggle to finance greatly enlarged energy import bills. The precarious state of Italy's economic, social, and political life has been well publicized. Less attention has been given to the difficulties of Portugal and Spain, struggling to consolidate democracy after long passages of dictatorship; or to the grave economic difficulties of Turkey whose current account deficit in 1977 was 7 percent of gross domestic product.

If stagflation—a phenomenon already 5 years old—persists in Western Europe for, say, another 5 years, I would guess that we will see political dislocations of a kind which would seriously affect the strategic balance in the area.

Second, there is the rising danger of protectionism and the breaking up of the already precarious international monetary system. The Bretton Woods arrangements and the habits of international economic cooperation which have survived its demise represent a rare example of governments and nations learning from history. The interwar experience of beggar-thy-neighbor economic policies was sufficiently painful and costly to underline the virtues of liberal trade and concerted monetary policies. But those policies, and the hard-earned lessons they incorporate, are now being undermined by the pressure on governments from unemployed labor seeking jobs and industries seeking assured markets in an environment of excess capacity. It was a dark day in the United States when the leaders of the AFL-CIO came out for protectionist policies; and they have their counterparts in most European countries, including the Cambridge (England) economists now advocating a new doctrine of protection for senile industries. If these forces triumph, the political and military cohesion of the West will be endangered.

In addition to these corrosive consequences of chronic stagflation, the advanced industrial world confronts a potential crisis of a more direct kind; namely, the crisis which would result from the predicted shortfall of OPEC oil production capacity in the 1980's relative to the global demand for OPEC oil.

The Central Intelligence Agency, Massachusetts Institute of Technology, OECD, and other analysts tell us OPEC's capacity to export oil will peak out in the 1980's—perhaps as early as 1983—because production capacity in some OPEC countries will begin to

decline while, as a matter of policy, Saudi Arabia has decided and announced that it will expand its production capacity at a rate such as to conserve its reserves for a relatively long period. The predicted shortfall will occur because, after a few years when North Sea and Alaska oil will slow up the demand for OPEC oil, that demand is expected to resume its rise in Europe as well as in the United States. Therefore, the OECD nations must use the time ahead to reduce their oil imports. The greatest responsibility falls on the United States because of the large energy reserves we command and the substantial margins for economy in consumption.

But we are evidently not meeting that responsibility. All objective analysts of the energy legislation, which was presented to the Congress and which passed the House of Representatives, conclude that its provisions will fail to achieve the targets in President Carter's energy plan. They will lead to a serious shortfall and a greatly enlarged requirement for American oil imports—perhaps as much as 16 mbdoe in 1985 as opposed to President Carter's target of about 6. A US oil import requirement of 16 mbdoe in 1985 would be a disaster not only for us but for the whole world economy, with serious implications for our security position. This situation is peculiarly dangerous because the lead times for generating new energy production and methods of conservation are so long that we must move into an all-out energy production as well as conservation effort now—in 1978—if we are to have a chance, at least, of avoiding a global energy crunch in the 1980's. Put another way, we cannot prudently wait to see if the experts are right about the OPEC production decline in the 1980's before making a maximum national energy effort.

Let me now try to make more precise the kind of crisis we face—in the United States and in the world economy—if we fail to move rapidly to reduce U.S. energy imports. This is how Charles Schultze, Chairman of the Council of Economic Advisers, in a speech of November 30, 1977, described our prospects:

Energy prices in the U.S. would skyrocket as a worldwide scramble for increasingly short oil supplies ensued.

We would be pressed into hastily fashioned and draconian measures to force conversion to coal and other resources; to limit automobile use, to ration heating oil and gas, and to spend huge sums of taxpayers' money on crash programs.

A desperate scramble to make good after several years' delay would most assuredly lead to a virtual scrapping of our progress in cleaning up the environment, instead of modest and temporary impacts on the environment from a well-designed energy policy undertaken in good time.

Industries that depend heavily on energy would begin losing money, laying off workers and scrapping their productive capacity.

Mounting energy prices would mean accelerating inflation, even as the number of jobs available in the economy declined.

US products would become increasingly uncompetitive on world markets, the value of the dollar would fall drastically, and the cost of products we import would rise rapidly.

Finally, because business firms can predict that this would be the outcome in the absence of an energy policy, their investments in the intervening years would begin to dry up. We won't have to wait until the inevitable crisis occurs before its anticipation costs Americans jobs and incomes.

This would not be a crisis confined to the United States. Both advanced industrial and developing countries would find themselves short of oil. Here is how Richard Cooper, Under Secretary of State for Economic Affairs, on December 8, 1977, described the potential crisis:

If our nations do not prepare for the oil shortfall in the 1980's, the framework of international cooperation which we have worked so hard to build since World War II will be imperiled. Severe economic disturbances would be followed in some countries by political instability. The trend toward freer international trade, which has been responsible for much of our post World War II prosperity, would surely be reversed under conditions of recession and oil-induced balance-of-payments difficulties. The prosperity and cohesion of the Western industrialized nations would be at stake, putting in jeopardy our own security and ultimately our way of life.

The non-oil producing developing countries would also be hard hit economically. These nations are not profligate energy users; these use very little energy, but their economic development—both in industry and agriculture—depends on the availability of imported energy. If oil prices are rising, the burden on the already fragile external financial condition of these countries would become insupportable. The cost of their imports would rise, and in world recession their exports would contract. Economic development would stop, if not regress.

But that is not all. Staring at the same impending crisis, the MIT study, directed by Professor Carroll Wilson, concludes: "The major political and social difficulties that might arise could cause energy to become a focus for confrontation and conflict."

I have subjected the reader to these somewhat ghoulish quotations to indicate the breadth, precision, and seriousness of the consensus that now exists on the dangers ahead—and not very far ahead. I could add many more such quotations from knowledgeable and responsible Americans and others—in Europe, Japan, and the Middle East.

The astonishing and deeply troubling fact is that, in the face of this consensus, neither the Executive Branch nor the Congress nor both together have been able to devise an effective national energy policy. I believe historians will judge our political performance on energy since 1973 as one of the greatest failures of the democratic process in our history.

Thus, if chronic stagflation doesn't destroy the political and strategic viability of the West, the failure of the United States to face up in time to the impending oil crunch is likely to do the job. And, if my analysis is correct, the irony here is considerable: a vigorous US energy policy could take us a long way back to sustained full employment while removing the threat of the oil crunch of the 1980's and strengthening the dollar.

IV. WHY WE ARE IN TROUBLE

For someone old enough to have lived through the 1930's, there is something familiar and ominous about the present state of affairs in the advanced industrial world. We are plodding along with policies which are patently incapable of solving our problems. We exhibit no capacity to change course. The human and social distress we are now experiencing is not as acute as it was in the 1930's; and the Soviet threat is not quite the same as that represented by Hitler and the Japanese militarists. But the potentialities for political, social, and strategic crisis are quite as real now as they were then.

One major reason we are in trouble is quite similar to that which rendered the interwar years so tragic. The leading economists of the West are as fixated on the concepts and policies which worked in the 1950's and 1960's as the interwar economists were fixated on the concepts and policies that worked in the pre-1914 world. Be they so-called liberals or so-called conservatives, the leading contemporary economists are experts on the manipulation of aggregate demand by fiscal and monetary measures. They command neither the concepts nor the tools for dealing with a world where supply problems, in particular sectors, have marched to the center of the stage.

This fact of intellectual history is important because politicians have to rely on economists; and so they are locked into policies and lines of action that do not grip current reality.

Citizens in democratic societies are extremely sensitive to these matters. They know instinctively whether their political leaders are on top of events or are, simply, the victims of a sequence of events that keep throwing them off balance. The danger in the democratic world is that this protracted display of incapacity will lead, as it did in the 1930's, to the loss of a sense of legitimacy with respect to democratic institutions and leaders. In my view, the rise of Euro-Communism is rooted in precisely this phenomenon. Surely, the program of the French Left in the recent election was even more anachronistic than that of the government; but the Left—or some new political grouping—will surely assert itself in Europe and elsewhere if democratic leaders continue to project an image of troubled sleepwalkers.

This setting of unresolved problems and uncertain leadership helps account also for a striking characteristic of current American politics; namely, the weakening of the two parties and the rise of strong assertive special interest groups. Lacking persuasive long-run national policies, within which special regional, economic, and other interests are equitably reconciled, it is natural for these groups to press hard their own short-run interests. If one travels about the United States, one can conclude, as I have concluded, that American society has not lost its historic capacity for cooperation and the generation of consensus. One can still see that familiar process strongly at work at the local, state, and even regional level. But at the national level—as the Federal Government fails to find effective policies for energy, the control of inflation, the strengthening of our trade balance, and all the rest—we observe a rather unseemly mood of *suave qui peut*.

Reflecting on these phenomena, a good many thoughtful Americans have concluded that we shall only rally when we actually confront acute crisis; that American democracy will continue to live by Dr. Samuel Johnson's old dictum: "Depend upon it, Sir, when a man knows he is to be hanged in a fortnight, it concentrates his mind wonderfully." But, given the investment lead times in energy, and the production lead times in military hardware and training, a fortnight is too short.

V. THE MILITARY ALLOCATION PROBLEM

I have left for the end the problem of resource allocation for military purposes. I have done so for three reasons.

First, although I do not underestimate the importance of military hardware and force structures, I would guess that the greatest danger to the United States and its strategic position lies in the corrosive effects of stagflation and excessive reliance on OPEC oil imports. After observing for 30 years the astonishing and unexpected post-1945

resilience of the democratic states, Moscow is studying our present discomfiture with fascination and hope and, no doubt, with an eye for areas of opportunity.

Second, a good many of our strategic problems arise not from inadequate force structures but from an apparent lack of unity and will in the United States and the NATO world as a whole. So far as the United States is concerned the conventional wisdom is that we are still suffering from the Vietnam trauma. To a degree this may well be so; although I would add my personal impression that the country has found its equilibrium rather more briskly than some folks in Washington. But it is also the case, in the United States as well as Western Europe, that unresolved domestic economic problems sap our psychological and political capacity to deal, individually or collectively, with external threats—a phenomenon which also marked the 1930's.

Third, quite technically, slow growth rates reduce the tax resources of governments available for military purposes, most notably the modernization of the NATO force structure.

In short, our strategic problems are by no means wholly the result of inadequate allocations of resources to military purposes; nor are they automatically to be solved by increased military budgets.

Nevertheless, I am inclined to think, without current detailed intelligence at hand, that some increase in the proportion of GNP devoted to military purposes is now justified. For one thing, both our potential adversaries and friends are influenced to a degree by what we do or fail to do about our military budget. And, on the face of it, outlays of only 5 percent of GNP (4th quarter 1977) for government purchases of goods and services for national defense seem low in a world experiencing crisis in Africa and the Middle East, where the Vice-President has reaffirmed US security commitments in East Asia, and where the implacable buildup of the Warsaw Pact forces continues. But the case must, of course, be made in terms of specific aspects of our force structure in relation to possible requirements; and I leave that for the other panels.

It is, thus, quite possible that a rational US policy will have to budget for increased relative allocations for defense purposes as well as for investment in energy and other resource-related fields. I cannot present to you a neat econometric model of the outcome; and I would not believe it, if I could. But I am confident that an America, at last at grips with its inflation and energy problems, enjoying rapid and steady growth based on enlarged resource-related investment, bringing its balance of payments under control, focused on great national household problems rather than pushing to the limit parochial interests, would find the resources to maintain an adequate national defense.

ENDNOTES

1. I shall not, however, permit that dictum to divert me from my assigned theme. The reader can find my views on inflation set out in Chapter 11 of *Getting From Here to There*, entitled "Inflation: Its Cause and Cure."

2. As with inflation, I shall not try to deal here with the reasons for the deceleration in United States productivity. The interested reader can find the issue examined in Chapters 8 and 9 of *Getting From Here to There*.

3. W. W. Rostow, *Energy, Full Employment, and Regional Development*, Austin : Council on Energy Resources, University of Texas at Austin, March 1978. A summary of this paper was presented to a meeting of the American Association for the Advancement of Science, Washington, D.C., February 14, 1978.

4. These figures are from the OECD *World Energy Outlook*, summarized in the *OECD Observer* 85 (March 1977): 12. They imply an investment level sufficient to generate, through conservation and production, the equivalent of an additional 12 million barrels of oil per day. The comparable figure for the United States is about 11 mbdoe for a somewhat shorter period.

PANEL 5

Men, Women, and the Crisis In Military Force Levels

William R. King

The method used by the United States to staff its military forces and the modern all-volunteer military force (AVF) have been the subject of controversy for more than 15 years. In the mid-1960's, when the concept of the modern AVF was first being subjected to serious scrutiny, the Nation had been served by a military draft for nearly a quarter century.¹ The military draft had therefore become the "normal" way of securing adequate military personnel in the minds of most Americans and military managers, despite the fact that for most of its prior history, the United States had supported its peacetime defense establishment on a volunteer basis.

The United States established the modern AVF when on January 27, 1973, Secretary of Defense Melvin R. Laird announced that the Armed Forces would henceforth depend exclusively on volunteer soldiers, sailors, airmen, and marines. This termination of more than three decades of military conscription in the United States came after nearly a decade of study by the Department of Defense and other interested parties.

The decision to move to an all-volunteer force was made prior to March 27, 1969, when President Nixon appointed an Advisory Commission on an All-Volunteer Armed Force under the Chairmanship of The Honorable Thomas S. Gates, Jr., former Secretary of Defense. The President's statement announcing the formation of the commission charged it with developing "... a comprehensive plan for eliminating conscription and moving toward an all-volunteer armed force."²

This charge to the Gates Commission makes it clear that the decision to change to an AVF had already been made when it was appointed. Probably, this decision was made during the Presidential campaign of 1968 when Richard Nixon promised, in the context of anti-Vietnam protests and draft card burnings, to eliminate the draft.

Since the modern AVF has been implemented, it has been no less controversial than was the draft, despite the fact that the controversy is now primarily carried on in the forums of analysts and scholars rather than in the streets.

MILITARY MANPOWER IN THE 1980's

The 1980's will most assuredly not be like the 1950's, when the draft was functioning on a relatively noncontroversial basis; or the 1960's, when the "draft versus AVF" controversy emerged and the decision to change the system was made; or the 1970's,

when the AVF was instituted and began to function.

This assertion is not merely a pontification that the future will not be like the present. Rather, it reflects extrapolations that are widely accepted by both supporters and opponents of the AVF. These extrapolations suggest that the 1980's will bring both:

- substantially declining populations in the military-age population group.
- improved economic conditions.

Both of these factors forebode negatively for the AVF in the 1980's. The population of 18-year old males will decline from 2.15 million in 1976 to about 1.7 million in the late 1980's.³ Thus, while the United States experienced peak populations in the relevant age groups during the period when the modern AVF was being implemented, it faces a sharply contrasting population situation in the next 10-15 years.

While it is never easy to forecast the economy, there has been an upturn in the recent past and forecasts are generally for improved economic conditions over the next 5 years.⁴ If these projections are valid, the military will be forced to compete with relatively more attractive civilian employment opportunities for the ever-decreasing number of military-age youth.

In addition to these demographic and economic phenomena, the 1980's may reasonably be projected to be a period of declining resource availability. This affects military manpower recruiting in many ways. Among the most important ways are the:

- outlook for military pay relative to civilian levels.
- likelihood of stable force levels.
- funds to pay, benefits, and recruiting rather than to weapons.

Again, each of these factors forebodes of significant change in the 1980's and all of these changes are likely to be negative for the AVF.

First, by any measure, military pay has increased rapidly in the late 1960's and early 1970's—the period when the AVF decision was being made and implemented. For instance, an Office of Naval Research study suggests that when the differential costs of living of military and civilian personnel are taken into account, the *real* increase in pay for military E-1's (the lowest pay grade) was 193.4 percent from 1964 to 1973, while the corresponding civilian production and nonsupervisory (nonagricultural) worker's pay increased in real terms only 10.3 percent during the same period.⁵

These enormous increases in military enlisted pay relative to pay for comparable civilian employment had significant impact on enlistments.⁶ Since "GI Bill" benefits expired at the end of the calendar year 1976, and since it is unlikely that comparable relative gains will occur in the 1980's, real questions can be raised concerning the impact of pay and benefits on future recruiting.

It is also unlikely that the future military needs of the Nation will result in significantly decreased force levels such as those which occurred in the post-Vietnam period during which the AVF was being introduced. Thus, this relatively unfavorable recruiting environment has been used to forecast that "... over the next five years substantial raises will have to be made to produce numbers and quality of military recruits."⁷

As the brief period of detente in US-Soviet relations becomes increasingly strained, the need for additional increasingly sophisticated and costly weapons becomes more widely discussed and accepted. This increasing perception of the need to spend defense

dollars on weapons, perhaps at the cost of spending on people and their procurement, again reflects negatively on the continued viability of the AVF into the 1980's.

STUDIES OF THE AVF

The modern AVF has been widely studied by analysts and scholars since the early 1960's. These studies have reached widely divergent conclusions concerning its prospects and impact. Some of this dissonance can be explained by the temper of the times in which the study was done. Three periods are clearly discernible.

- I. Pre-AVF (1960's)
- II. Early AVF (1970-76)
- III. Late Seventies (1976-present)

Studies in the first period were largely executive branch or Department of Defense funded and generally reached negative conclusions concerning the desirability and feasibility of the AVF.

Beginning with the 1970 Gates Commission report, which rationalized the decision to go to an AVF, studies began to emerge which showed that the AVF was indeed viable and that it was "working" reasonably well. In the most recent period, beginning with the Defense Manpower Commission study in 1976, studies have begun to question the future viability of the AVF, as well as to question its performance more incisively and to address its broader impact on our society.

A second factor which can be used to understand the diverse conclusions of these studies lies in the sponsoring agency. The executive branch and The Department of Defense and its funded agencies have tended to conclude negatively about the AVF when the draft was national policy and positively when the AVF became national policy. On the other hand, congressionally sponsored studies have tended to be more questioning and more critical of the AVF.⁸

The earliest studies related to the modern AVF were primarily done under the aegis of the Executive Branch and DOD in the middle 1960's. The first public review of the draft was a DOD study released in 1966.⁹ In 1967 two advisory groups, headed respectively by Burke Marshall and General Mark Clark, studied the feasibility of an AVF and both concluded that it was not feasible.¹⁰

The second period in the AVF dialogue commenced with the Gates Commission Report which was commissioned by President Nixon after the decision to end the draft had been made.¹¹ Although they were not asked to do so in the formal charge, the Gates Commission chose to look into both the feasibility and desirability of the move to an AVF. The commission reported favorably on both counts and made many recommendations—foremost among them being significant military pay increases—that they believed necessary to make the all-volunteer concept a success.

This report, with its positive conclusions concerning the AVF, provided the intellectual rationale for the modern AVF.

The essence of the commission's findings is summed up in two paragraphs from Secretary Gates' letter of transmittal:

We unanimously believe that the nation's interests will be better served by an all-volunteer force, supported by an effective stand-by draft, than by a mixed

force of volunteers and conscripts; that steps should be taken promptly to move in this direction; and that the first indispensable step is to remove the present inequity in the pay of men serving their first term in the armed forces.

We have satisfied ourselves that a volunteer force will not jeopardize national security, and we believe it will have a beneficial effect on the military as well as the rest of our society.¹²

The administration accepted the commission's recommendation in principle, but extended its recommended timetable for 2 years until July 1, 1973. Congress approved a 2-year extension of induction authority until that date, thus creating a "transition period" extending from 1970 until January 1973 when the draft was actually ended.

The transition period, during which the military was still supported by a draft, while knowing that it faced a 1973 termination of induction authority, was one of planning and experimentation for DOD. During that uncertain period, many officials and laymen were doubtful that the Gates Commission's conclusions were valid. The fact that the draft was ended 6 months ahead of schedule, in January 1973, undoubtedly reflects both effective planning and the influence of uncontrollable factors such as the economy and declines in the magnitude of the war-stimulated need for large military forces. However, as Binkin and Johnston state in their study of the transitional achievements in preparing for the AVF:

Taken together, these achievements suggest that this nation can accomplish what no other nation has ever attempted—to maintain an active armed force of over two million men and women on a voluntary basis.¹³

The Binkin and Johnston Study, as well as two other DOD-sponsored studies prepared during 1976, also basically concluded that the AVF was working in producing adequate numbers of personnel at reasonable cost to the Nation.¹⁴

The third period of AVF studies began with the report of the Defense Manpower Commission (DMC) in 1976. This report concluded that:

The sustainability of the All Volunteer Force during peacetime will depend upon the economic situation and other interrelated factors, some of which—such as public attitudes toward the armed forces—cannot be predicted with any certainty.¹⁵

In raising the issue of sustainability of the AVF being dependent on economic and other forces, the DMC began to take a prospective look at the AVF of the 1980's. My own report to the US Senate Committee on Armed Forces sought to better analyze these factors, to more broadly analyze the AVF and to examine alternatives to it such as national service programs.¹⁶ At about the same time, the Congressional Budget Office prepared an issue paper which analyzed alternative "solutions" to what was beginning to be recognized as an AVF "recruiting problem" for the future.¹⁷

Since then several studies have served to better illuminate the performance and future potential of the AVF in greater detail or in broader terms than had been previously done. The General Accounting Office performed a detailed cost analysis of the AVF and concluded that: "The move from a conscripted to an all-volunteer force caused substantial annual cost increases of more than \$3 billion since 1973."¹⁸ A study commissioned by Congressman Robin Beard studied military effectiveness in greater depth and drew negative conclusions about the readiness and morale of the AVF.¹⁹

Finally, Professor Charles Moskos of Northwestern University reported on his analysis of the composition of enlisted ranks in the AVF.²⁰ His study, based on both empirical evidence and personal observation concluded that:

In comparison with the peacetime draft, . . . today's Army is much less representative—and becoming increasingly so—of American youth . . . a more representative enlisted force will have beneficial consequences for the Army in terms of military efficiency, enlisted life in the ranks, and civic definition. Most troubling, even at present levels of quality and numbers, recruitment will become progressively more difficult as the cohort of eligible enlistees drops more rapidly over the next decade.

A list of these various studies is shown in Table 1 in the order just discussed and in terms of the names which are commonly used to refer to each. No further attempt will be made in this paper to reference them completely other than is necessary to point out specific chapters and pages.

Table 1

STUDIES OF THE ALL-VOLUNTEER FORCE

Period	Study
Period I Pre-AVF (1960's)	1966 DOD Study Marshall Report, 1967 Clark Report, 1967
Period II Early AVF (1970-1976)	Gates Commission Report, 1970 Binkin and Johnston Study, 1973 DOD Transition Report, 1976 Rand Study (Cooper), 1977
Period III Late Seventies (1976-Present)	Defense Manpower Commission, 1976 King Senate Study, 1977 CBO Manpower Issue Paper, 1977 GAO Cost Study, 1978 Beard Report (Reed), 1978 Moskos Enlisted Personnel Paper, 1978

DISCUSSION OF THE STUDIES

In interpreting the vastly different conclusions which are reached in these various studies, one must be cognizant of a number of things.

First, the studies do not all have the same scope. Some, like the Beard (Reed) Report, have focused attention on the Active Army. Many analysts have chosen this scope on the theory that the Army has the most difficult recruiting job under the AVF.

Others, like my own study, have been broader in scope, but have tended to focus on a "worst case" analysis, whenever it occurs. For instance, recruiting and force maintainance is worst in the Reserves, the Air Force has the most difficult situation for the recruitment of physicians, and so on. This approach is taken in an attempt to ferret out what is really happening, rather than to rely on the mass of highly aggregated, and often misleading, statistics which the DOD usually makes public.

Others, such as the Rand (Cooper) Study, totally ignore the Reserves and conclude, that "the AVF" has worked reasonably well, when even the authors would admit that the reserve forces are an integral part of our defense under the DOD's "total force" concept and that by no stretch of the imagination could one conclude that reserve recruitment has been acceptable under the AVF.

Thus, in part, whether the AVF has worked or not, depends on the scope of one's definition. It clearly has worked better in some services than in others (e.g., Air Force versus Army) and better in some segments than in others (e.g., Active versus Reserves) and better according to some measures than others (e.g., recruiting versus attrition).

The different conclusions of the studies are also partly explainable by the time period in which they were done. There is a clear shift from negative to positive to negative conclusions regarding the AVF in the three time periods. This probably reflects the established thinking of the times but it also reflects the successively more sophisticated analytical models and data which have been applied.

For instance, the Marshall and Clark reports of the first period concluded that the AVF would be too costly, but their data and analysis were quite weak. The Gates Commission Report used much more sophisticated analyses to project that the cost of an AVF would, in fact, not be excessive. With the additional significant benefit of hindsight, my own report gave a detailed analysis of the failures of the Gates assumptions to hold²¹ and the GAO Report provided actual cost data which showed the AVF to be much more costly than had been estimated by the Gates Commission.

Other examples of different "models" being used as a basis for analysis are even more significant in explaining the various conclusions concerning the AVF. The Gates Commission study essentially took the point of view of free-market economics and substantially ignored cultural and social phenomena which they considered to be not readily measurable in the terms with which economists are most comfortable—quantities of personnel and dollars. So too did each of the other studies of the second period use this limited "economist's model of the world."

My own 1977 study was the first to take a broader perspective that included non-economic as well as economic phenomena. While it reached no overall conclusions as to the viability or value of the AVF, limited data on these social and cultural measures tended to reflect more negatively on the AVF than did economic measures. Subsequent studies by Moskos and Reed have tended to confirm some of the negative inferences which I suggested.

Differences in the analytical model, or frame of references, also serve to explain the correlation between the sponsoring or funding organization and the conclusions reached in AVF studies. The analysts who perform these studies are biased, not in the usual negative sense, but rather, in the sense of being limited by their analytic framework. For instance, economists, who performed most of the studies in the second period, have a distinct bias against anything which is not readily assessable in the usual supply-demand terms (quantities and dollars). This bias is analytically advantageous in that economists are not prone to jump to conclusions without hard evidence. However, they do tend to ignore major societal phenomena simply because they cannot readily be measured in traditional economic terms. Thus, their analytical models may lead them to develop sophisticated solutions to insignificant problems while the important issues go unconsidered.

This is not to say that the broader models, such as those used in my own study and those of Moskos and the Beard (Reed) Report, are the ultimate answer. Certainly, such models often do not lead to clear conclusions. In assessing something as complex as the AVF, one expects to find some positive attributes and some negative ones and since more comprehensive models do not have the advantage of reducing everything to a single dollar value, the overall conclusion about the merits of the AVF is left to the individual. However weak such broader models may be in arriving at overall evaluations, they are strong in that they attempt to comprehensively evaluate the AVF in all relevant dimensions, whether or not those dimensions are easily measurable.

The concept of different analytic models, or frameworks, thus serves to further elucidate the different study results and may further explain the correlation between sponsoring agency and study results. Sponsors, explicitly or implicitly, choose analysts who they know to possess frameworks which the sponsor considers to be valid, and not to select analysts with "different" frameworks. Thus, DOD, with its natural concern with recruiting objectives and budgets, selects analysts who have a similar focus. The legislative branch, with its broader concerns, selects analysts who define the problem more broadly. Therefore, it is not surprising that the conclusions reached appear to be quite different, particularly when they are conveyed in the simplistic fashion of the news media.

THE PERFORMANCE OF THE AVF

Despite the fact that the various viewpoints and studies lead to different conclusions, there are some statements that can be generally agreed to concerning the *past* performance of the AVF.

1. The AVF has generally worked to provide adequate numbers of recruits to maintain desired active force levels.
2. The AVF has not been successful in attracting adequate recruits to maintain reserve force levels.
3. The AVF has and will continue to have a significant annual cost beyond that which would have been incurred under the draft.
4. The AVF has been plagued with unacceptable levels of first-term enlisted attrition.
5. The cost of operating the military at higher force levels, such as would be required in an emergency, is so high as to be unacceptable.
6. The "quality" of enlisted personnel in the military has generally fallen under the AVF.
7. The AVF does not have an enlisted force which is representative of the national population, particularly with regard to race, education, sex, and perhaps, the socio-economic segment.

Some of these generally accepted AVF performance assessments which appear to be negative may be argued by some to be perfectly reasonable and acceptable. For instance, one might argue that the declining quality of enlisted personnel was forecast and that the draft-era quality levels were higher than necessary.

Other factors, such as the state of the reserve forces and active force attrition, are

generally considered to be unacceptable and "out of control."

CRITICAL AVF ISSUES FOR THE 1980's

Despite their different viewpoints and conclusions, all of these studies, taken together, have also served to better define the issues with which the Nation must deal as we move into the 1980's. Some of these issues are:

- Will the maintenance of force levels under the AVF become so costly in the 1980's that overall defense effectiveness will be seriously eroded?
- Can a "total force" defense concept be made viable under the AVF or will an entirely new concept be necessary?
- Can the AVF, unsupported by a backup draft, be adequately responsive to an emergency situation, or must a backup draft be instituted?
- Is the AVF solely a peacetime concept, and does it therefore fail to achieve some basic national security objectives?
- Does the AVF unfairly distribute the burdens of defense to various segments of the population?
- Will the AVF ultimately undermine the Nation's defense capability through an erosion of public confidence in the military which leads to decreasing support for defense expenditures?
- Will the AVF ultimately undermine the level of patriotism in the American public?
- Will the AVF lead to greater isolation of the military from the rest of the society?
- Does the nature of the AVF restrict the range of policy choices available to our leaders in using military forces to achieve national objectives?

POLICY OPTIONS FOR THE 1980'S

Most analysts would conclude that the problems of the AVF are not demonstrably insoluble. Nonetheless, along with policy options that are within the AVF framework, it would seem to be prudent to consider options for the 1980's that go beyond the current AVF structure.

Among the AVF policy options which must be considered individually and in combination are:

1. The maintenance of significantly reduced military force levels in the 1980's.
2. Significantly greater expenditures for pay, benefits, and recruiting costs so that the current AVF structure is made relatively more attractive to the current population segments from which it draws.
3. Further significant changes in the nature of military life in order to reduce attrition and to enhance the relative attractiveness of the military.
4. Significant reductions in the mental and physical standards which are employed by the military.
5. The development of a new defense concept to replace the "total force" concept. Such a new concept would presumably lessen the role and importance of reserve forces in defense.

6. Utilization of women in fulfilling personnel requirements to a degree that requires change in present concepts of the woman's role in combat as well as change in the attitude of military managers toward women.

7. Significantly greater use of technology to handle support tasks now performed in a labor-intensive manner.

8. A "reserve only" draft to complement the active duty AVF.

Among the non-AVF policy options which warrant serious consideration are:

1. Universal military training, perhaps involving an entirely different concept of the role of active duty.

2. A national service program which would include the military as one option for performing service to the Nation.

3. A return to some form of active force conscription.

DISCUSSION OF POLICY OPTIONS AND CONCLUSIONS

It is beyond the scope of this paper to discuss the many complex AVF policy options in detail. Suffice it to say that there is substantial doubt as to whether any single such option would be adequate to enable the AVF to deal with the problems of the 1980's. Thus, more than one of these options would likely have to be successfully planned and effectively implemented if the AVF is to continue through the 1980's.

Certainly these AVF options must be analyzed, tested, and evaluated. However, at the same time, it would be prudent to begin a serious study of some of the non-AVF alternatives as well.

Universal Military Training. Universal military training (UMT) is the generic term used to describe various plans under which "everyone" would be given at least a minimum amount of military training on a compulsory basis. Such systems exist in countries such as Israel, Sweden, Switzerland, and the USSR (although it is not officially recognized as such there).

Support for the UMT concept apparently is surprisingly strong among young people. However, it is interesting to note that the concept receives much higher support than do any of the several specific UMT plans which respondents were queried about in a 1965 survey.

High military training costs per recruit would make the UMT concept a costly one. The additional cost would be at least \$20 billion annually, possibly much more depending on the necessity for increasing physical facilities, weapons, and so forth. If the military could reduce significantly its recruit training costs through increased class size or other means, the UMT concept might be less costly than it generally is perceived to be.

National Service. "National service" is another generic term which is used to describe a variety of plans having the common element of service in a variety of military and nonmilitary fields which are deemed to be in the Nation's best interests.

A number of varieties of national service may be distinguished:

—Compulsory national service, in which all are required to serve in some military or nonmilitary capacity.

—Alternative national service, in which all would be required to serve, but those choosing nonmilitary service would be exempted from a military obligation.

—“Voluntary” national service, in which nonmilitary service is encouraged, but it does not exempt one from a military obligation.

—“Minimally coercive” national service, in which everyone is required to register and be evaluated, but there is no service commitment.

—“Pure” voluntary national service, in which no commitment for service (military or nonmilitary) exists, but such service is encouraged and facilitated.

The United States today has a purely voluntary system of the latter variety since both military and nonmilitary service programs such as the Peace Corps are encouraged, but not required of anyone. The “voluntary” national service system is something of a misnomer since it is the system which existed in the United States during the draft era. The other options are of greater interest:

Minimally Coercive National Service. Under this system, all Americans would be required to register, to take medical and aptitude tests, and to be counseled concerning the various military and nonmilitary service options which are available. Diagnosis of physical and educational problems also would be provided so that, even if the individual did not choose to serve, he or she could be referred to the most appropriate medical care or educational programs. Such a system might include a backup draft to accommodate military requirements should the voluntary choice process not fulfill them. However, there is evidence to suggest that defense personnel requirements might be met without resorting to a draft.

This is so because a registration system would increase the “pool” of potential recruits available to the military in the sense that more individuals will be provided with substantive information and placed in the position of making a conscious and enlightened choice concerning military service.

More than 55 percent of male junior and senior high school students surveyed in 1965 (before large military pay increases had taken place) said that they would choose a military option under a national service program as compared to 26 percent who said that they would choose a nonmilitary option.²² If these intentions are fulfilled, the military would obtain more than its “fair share” of youths.

These data can in part be explained by the fact that the military would probably be the only national service alternative which involves, in and of itself, substantial career opportunity. Thus, it would have a built-in attractiveness relative to the other service options. Moreover, the national service system can be designed so that pay, benefits, and service durations can be adjusted among the service alternatives to make military service relatively more attractive, as necessary to obtain adequate numbers of recruits.

It may not even be as necessary to do this as some might imagine. This is so because even minimally coercive voluntary national service would give the military the opportunity to provide substantive information about military careers to all prospective recruits—not just those whom they reach with their advertising effort with its minimal information content. Survey evidence suggests that this would be advantageous in obtaining recruits, since the potential recruits—young men (under 20)—their parents, and educators (who influence the enlistment decision), are all positively influenced in their views toward military service when they are given factual information about the military.²³

Alternative National Service. This national service concept would involve a commitment on the part of everyone to serve in some capacity. Those who chose to enter non-military service would be exempted from military service. However, quotas or a draft for the military would be necessary to ensure the achievement of military requirements.

Compulsory National Service. This is the most coercive form of national service. It would involve a "draft" and assignments into various services being determined "by the system" largely on the basis of national goals and priorities rather than as a matter of individual preference.

Conscription. In its old form, a military draft would probably not be a popular thing with the American public. However, the concept of conscription is not limited to that which we have had in the past, and we should therefore not be so constrained in our definition and analysis of *potential* policy options.

The modern AVF has produced many actual and potential undesirable and unintended consequences. Further problems can be foreseen that could reduce the AVF to a peacetime activity that can be prepared to cope with significant emergencies only at great cost and with great delays. Such a force would reduce our international credibility as well as our ability to defend ourselves and to meet our worldwide commitments.

We must look at the AVF realistically, rather than through the rose-colored glasses of those draft-opponents who see the draft as the only feasible, and undesirable, alternative, or those defense officials who have dedicated themselves to making it a success, despite their underlying doubts.

Unfortunately, if we do not vigorously pursue the better definition and evaluation of both the AVF and non-AVF policy options, I am fearful that we will reach a point in the 1980's when it becomes apparent to the public, as well as to analysts, that the current AVF simply cannot continue. If that point comes, we will have little alternative but to return to the pre-AVF variety of conscription; indeed, there will be a public demand for it.

This is a situation to be avoided. It would not be good for the Nation as a whole and it would not be good for those who are selected to serve.

The time has come to conduct a searching and candid evaluation of the AVF, its effectiveness, its costs, and its impact on our society. In doing so, we should examine various alternatives to the AVF from the overall perspective of our national goals. Only through such an analysis of alternatives will we be able to choose that overall system which will best serve us in both peace and war.

ENDNOTES

1. With the exception of a brief period in 1947-48, conscription into the military had been continuously practiced since 1940.
2. Statement of President Richard M. Nixon, March 27, 1969.
3. US, Bureau of the Census, *Current Population Reports: Population Estimates and Projections*, Series P-25, no. 601, October 1975, Table 8.
4. US, Bureau of Labor Statistics, *Employment and Earnings*, January 1976; and US, Congressional Budget Office, *Defense Manpower: Compensation Issues for Fiscal Year 1977*, Background paper no. 6, by Robert F. Hale and Gary R. Nelson, April 2, 1976.

5. Tulay Demirles, *Adjusted Consumer Price Index for Military Personnel and a Comparison of Real Civilian and Military Earnings, 1964-1973*, George Washington University, Technical Memorandum TM-1200, Office of Naval Research Project NR 347-024, November 1, 1974, p. 9.
6. See David W. Grissmer, *The Supply of Enlisted Volunteers in the Post Draft Environment: An Analysis Based on Monthly Data 1970-1975*, Rand Conference on Defense Manpower, February 3, 1976.
7. US, Congressional Budget Office, *Defense Manpower: Compensation Issues for Fiscal Year 1977*.
8. More will be said about this point after the various reports are reviewed.
9. US, Congress, House, Committee on Armed Services, *Review of the Administration and Operation of the Selective Service System, Hearings*, 89th Cong., 2d sess., June 1966, pp. 9999-10174.
10. US, National Advisory Commission on Selective Service, *In Pursuit of Equity: Who Serves When Not All Serve?* Report, 1967; and US, Congress, House, Committee on Armed Services, *Report of the Civilian Advisory Panel on Military Manpower Procurement*, 90th Cong., 1st sess., 1967.
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12. *Ibid.*, p. iii.
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14. US, Department of Defense, *The All-Volunteer Force: Current Status and Prospects*, December 17, 1976; and R. V. C. Cooper, *Military Manpower and the All-Volunteer Force*, Rand Corporation, R-1450-ARPA, September 1977. (The Rand report was not issued until well into 1977, but it was essentially completed in 1976 and it is, therefore, placed in the second phase.)
15. US, Defense Manpower Commission, *Defense Manpower: The Keystone of National Security*, Report to the President and the Congress, April 1976.
16. US, Congress, Senate, Committee on Armed Services, *Achieving America's Goals: National Service or the All-Volunteer Armed Force?* by William R. King, February 1977.
17. US, Congressional Budget Office, *The Costs of Defense Manpower: Issues for 1977*, January 1977.
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CLOSING REMARKS

Honorable David E. McGiffert

I came away very impressed from listening to the reports this morning. I thought they showed a high quality of discourse in the panels and a healthy degree of disagreement.

I want to thank all of you who participated and particularly the panel leaders for their able chairmanship.

Since I have a little more time than I had anticipated, I thought I might very quickly share with you two or three thoughts I had during the reports this morning.

I can see three issues which were touched on, I think, in one or more panels, but in many ways not fully explored and which, from my perspective at the moment, are really quite important. There are a great many other very important issues but these are three that, from my perspective, have some special significance. It is not so much that they are brand new but that for a variety of reasons, each is attracting increasing attention within the Government. I don't propose to deal at length with any of them but just to suggest them. They will not, I think, surprise you.

One, which is perhaps much more of a force structure/military budget kind of issue than the others, is this question of the limited contingency which Panel 2 talked about to some degree and General Taylor commented on. We do have difficult questions as to how scenario-dependent our forces for limited contingencies must be, the degree to which we can focus on NATO without introducing inflexibility into response to limited contingencies, the degree to which we can and can afford to have forces to deal with limited contingencies simultaneously with a larger one, for example in NATO.

The second question has to do with our relationships with the People's Republic of China. I think it is self-evident that that is an enormously important question from the point of view of the security of the United States, particularly as one looks farther out into the future. I don't want to discuss it in any detail. I think it is a matter of making some very difficult determinations as to what the pace and content of our policy ought to be in relation to the People's Republic of China and a further identification of where our interests coincide and where they compete.

Lastly—and this one I want to talk about in a little more depth because I am the Chairman of the recently formed, high-level group of the NATO Nuclear Planning Group—I would like to look at the question of long-range theater nuclear systems. There is the issue of theater nuclear forces, particularly in Europe.

We in ISA (Office of the Assistant Secretary of Defense for International Security Affairs) quite purposely injected the idea of essential equivalence, or tried to, into all the panel discussions. We did so because at least in the military sphere we have a presidentially stated policy of a goal of essential equivalence, and yet there are surely, as Bill Hyland indicated, real problems in defining what that is; in determining whether one

can define it sufficiently precisely to make it meaningful in planning, programming and budgeting terms; or, even if one can't, whether it nevertheless has some psychopolitical usefulness as a concept.

Passing that, one might raise the question with respect to theater nuclear forces whether we don't run a risk of shooting ourselves in the foot if we adopt a theory or an approach of essential equivalence. The difficulty is that as soon as you say you need essential equivalence, then you have said to yourself, "I have to program the things which will produce that equivalence or maintain it." Yet we have lived for years with an asymmetry in theater nuclear forces which we have found quite tolerable.

I would agree that that asymmetry has been balanced, in a sense, with NATO having an advantage in battlefield nuclear weapons and the Pact having an advantage in mid- and long-range systems, and that that balance, if you want to call it a balance, is being somewhat threatened by the Soviet development of shorter-range delivery systems and the deployment of the SS-20 and Backfire. Nevertheless, there is, I think, a serious question that has both military and political dimensions as to whether an essential equivalence criterion for theater nuclear forces is the right approach.

There is another reason—or there are several more reasons for focusing on theater nuclear forces. I think it is self-evident that this, at least in concept, is where the next great opportunity for creative arms control will occur. Whether it is feasible to grasp that opportunity effectively nobody yet knows.

Furthermore, again as Mr. Hadley suggested, there is clearly a very significant political ingredient to the question of theater nuclear forces. In fact, as John Elder knows, I tend to consider that ingredient perhaps as more significant, at least today, than the military ingredient.

And we have a Germany which is concerned with the question essentially from a political and psychological view; and we have a France and Britain really more concerned with the issue from the military point of view in the sense that they are looking for a way of modernizing their own nuclear forces with assistance from US research and development.

All these questions are ones that are now being debated vigorously within governments, to some degree between governments. In Europe, we have seen some advocacy of what is called the "Euro-strategic balance"; it is a concept which, in my judgment, is pernicious if it means that European nuclear forces could ever balance Soviet forces. In my judgment, the Europeans simply do not have the resources to accomplish that end. Therefore, to try to get there would only in the end mean an essential nonequivalence or lack of equivalence which would provide the Soviet Union substantial political leverage.

Any of you who have something to contribute in this area will be most welcome by me, if you want to send in your views, because I do not think that anybody has a monopoly on how to deal with it, either from a military-political or an arms control view. It is in the next 6 to 12 months that we are going to probably be setting our course.

General Gard, that's all I want to say. Thank you for the opportunity to speak to the group, and thank you very much, as well as Captain McIntyre, for putting together a superb conference. I appreciate it.

GENERAL GARD: As I mentioned in the opening remarks, ISA very kindly cosponsors this conference with NDU, and I would like to acknowledge ISA's full support, particularly that of Lynn Davis, the Deputy Assistant Secretary, and Jim Thomson, the

Director of Policy Planning, as well as Ty McCoy, who takes care of a lot of the details of coordination for us.

As has been mentioned, we do publish the proceedings, to include the papers and summaries, without attribution, of points of view of what took place in the round table discussions. I am told by John McIntyre that they will be published between the 6th and 8th of September. How he can be that precise at this point I am not certain.

I would like to conclude this by selfishly, admittedly, acknowledging my own Director of Research, John McIntyre, who not only had 20-odd research associates upon the retirement of his predecessor but continued the emphasis on our National Security Affairs Institute singlehandedly and probably talked to every one of you in here at one time or another and took care of all the administrative arrangements.

BIOGRAPHICAL NOTES

DR. ROY AMARA, President, Institute for the Future. Dr. Amara joined the Institute in 1970, and became its president the following year, having been associated with Stanford Research Institute from 1952 until that time. He is a prolific researcher with emphasis on systems innovation, and has done significant work on the future corporate environment, emerging societal issues, methodologies for long-range planning, and forecasting and decision analysis. He received his bachelor of science degree from MIT and holds a master's degree from Harvard University and a doctorate in engineering from Stanford.

MAJOR GENERAL THEODORE ANTONELLI, USA, Commandant, the Industrial College of the Armed Forces. General Antonelli is completing a distinguished career in the United States Army and will retire on 31 July 1978. Prior to assuming command of the Industrial College of the Armed Forces, he was Assistant Deputy Chief of Staff, Logistics, Department of the Army. His recent assignments include Director of Distribution and Transportation, Army Materiel Command; Deputy Chief of Staff, Logistics, US Army Vietnam; and Deputy Commanding General for Logistics Support, Army Materiel Command. He received his bachelor's degree from the University of Connecticut and a master's degree in international affairs from George Washington University.

DR. WILLIAM B. BADER, Assistant Deputy Under Secretary for Policy, Department of Defense. Dr. Bader has wide experience in government with the Department of State, on the staff of the Senate Foreign Relations Committee, and as director of the foreign intelligence task force for the Senate Select Committee to Study Governmental Operations with Respect to Intelligence Activities. He has worked for the Ford Foundation as a program officer and as European representative, and was a Fellow at the Woodrow Wilson International Center for Scholars. He has studied at the University of Munich and the University of Vienna, and holds a master's degree and doctorate in history from Princeton University.

MR. WILLIAM A. BARTEL, Consultant, Celanese Corporation. Mr. Bartel has a distinguished career in communications and public affairs and was Vice President for Communications for the Celanese Corporation. He has been Chairman of West, Weir and Bartel, and President, Ellington and Company. Mr. Bartel is a former Chairman of the Association of National Advertisers and is currently a Board Member of the Advertising Council.

DR. RICHARD K. BETTS, Research Associate, the Brookings Institution. Dr. Betts has been with Brookings since 1976, working on nuclear proliferation, regional security problems and US military policy. He has been on the National Security Council staff, and is currently a consultant to the Council. He was on the staff of the US Senate Select Committee to Study Governmental Operations with Respect to Intelligence Activities and his most recent publication, *Soldiers, Statesmen, and Cold War Crises*, was nominated for the Pulitzer Prize and the National Book Award. He was graduated from Harvard College and holds a master's degree and doctorate in political science from Harvard University.

MR. ROBERT R. BOWIE, Deputy Director for National Foreign Assessment, Central Intelligence Agency. Professor Bowie's broad involvement in government and academic affairs spans several decades of distinguished service. Prior to accepting his current assignment, he had directed the Harvard Center for International Affairs from its inception, except for a 2-year leave of absence to serve as Counselor of the Department of State. Included among his other government appointments, Mr. Bowie has been Director of the Policy Planning Staff, Assistant Secretary of State for Policy Planning, and a member of the Planning Board of the National Security Council. He is a former Professor of Law at Harvard Law School, Assistant Attorney General of Maryland, and assistant director, Maryland Legislative Council, and a widely read author, coauthor and editor of books on law and international affairs. Professor Bowie received his bachelor's degree from Princeton University and his LL.B. from Harvard Law School.

MR. RICHARD R. BURT, National Security Affairs Correspondent, *New York Times* Washington Bureau. Prior to joining the *New York Times* in 1977, Mr. Burt was the Assistant Director, International Institute for Strategic Studies, in London. He is the author of various journal articles and Adelphi Papers on defense budgeting and new weapons technology and his articles appear regularly in the national press. He is a former Advanced Research Fellow at the Naval War College and Defense Adviser to the Wednesday Group, United States House of Representatives. He received his bachelor's degree from Cornell University and his master's degree from the Fletcher School of Law and Diplomacy, Tufts University.

DR. STEVEN L. CANBY, Consultant. Dr. Canby is a former Rand Corporation and Defense Department Systems Analyst who specializes in military strategy, force structuring, defense economics and military manpower. He is also a former instructor of economics at Harvard University, rapporteur at the John F. Kennedy Institute of Politics, and military officer. Dr. Canby is the author of numerous papers, monographs and articles on military strategy and other defense issues and holds a bachelor's degree from the United States Military Academy at West Point and a doctorate in political economy and government from Harvard University.

DR. RAY S. CLINE, Executive Director of Strategic and International Studies at the Georgetown University Center for Strategic and International Studies. Dr. Cline served the US Government in several capacities for over 30 years, including Deputy Director for Intelligence with the Central Intelligence Agency and Director of the Bureau of Intelligence and Research in the Department of State. He is widely published, his most recent book being *World Power Assessment*, 1977. He was graduated from Harvard College and holds a master's degree and a doctorate from Harvard University. He studied at Balliol College, Oxford University, and was a member of the Society of Fellows at Harvard.

DR. JOSEPH I. COFFEY, Professor of Public and International Affairs, University of Pittsburgh. Dr. Coffey has enjoyed a varied career as a soldier, educator and specialist in international affairs. He has served on the President's Commission on Information Activities Abroad, and as a consultant to the Arms Control and Disarmament Agency. Dr. Coffey joined the faculty of the University of Pittsburgh in 1967. He is active in professional associations and serves on the Council on Foreign Relations and with the International Institute for Strategic Studies. He is a graduate of the US Military Academy and is the holder of a master's degree from Columbia University and a doctoral degree from Georgetown University.

HON. WILLIAM E. COLBY, JR. Mr. Colby served as Director of the Central Intelligence Agency from 1973 to 1976, culminating a long and distinguished career which began in the Office of Strategic Services under General Donovan during World War II. He served in embassies in Stockholm and Rome and as special assistant to the Ambassador in Saigon, where he helped initiate the strategic hamlet program. He resigned from the Agency in 1968, and served as Deputy to Ambassador Komer in Vietnam. In 1968 he succeeded Mr. Komer as Director of the Pacification Program, with the rank of Ambassador. In 1971 he returned to the Agency as its Executive Director. He is a senior partner of the firm of Colby, Miller and Hanes in Washington, D.C.

DR. CHARLES A. COOPER, Deputy Manager, Public Affairs Department, Exxon Corporation. A former Executive Director of the World Bank, Dr. Cooper has also served as Assistant Secretary of the Treasury for International Affairs, Deputy Assistant to the President for International Economic Affairs and as Minister-Counsellor for Economic Affairs at the American Embassy in Saigon. He is a former Associate Director of AID, and holds a doctorate in economics from the Massachusetts Institute of Technology.

DR. LYNN E. DAVIS, Deputy Assistant Secretary of Defense (International Security Affairs). Dr. Davis has served on the professional staff of the US Senate Select Committee on Intelligence and was a member of the United Nations Association Conventional Arms Control Panel. A former consultant to the National Security Council staff on SALT and strategic issues, she is a member of the Council on Foreign Relations, the International Institute for Strategic Studies and the International Studies Association. Dr. Davis received a Ph.D. degree in international politics and political science from Columbia University.

DR. JOHN M. DEUTCH, Director of Energy Research, Department of Energy. Prior to accepting his current appointment, Dr. Deutch served on the faculties at Princeton and MIT and as a consultant to the Rand Corporation, the Urban Institute and the Ford Foundation. He continues to serve on the Editorial Boards of the *Annual Review of Physical Chemistry* and *Chemical Physics* and on the Defense Science Board. He is a noted and widely published author in the areas of non-equilibrium statistical mechanics, structure of fluids, dielectric and magnetic relaxation, light scattering and polymer theory. A member of the American Academy of Arts and Sciences, Dr. Deutch holds undergraduate degrees from Amherst College and MIT, a Ph.D. in physical chemistry from MIT and an honorary Doctor of Science degree from Amherst College.

DR. LEWIS A. DUNN, Hudson Institute. Dr. Dunn is a recognized authority in the area of international politics and US foreign policy. An expert on the issue of nuclear proliferation, he is a widely published author of many studies and articles on this topic, including the Hudson study *Trends in Nuclear Proliferation, 1975-1995*, conducted for the US Arms Control and Disarmament Agency. Prior to joining the Hudson staff, Dr. Dunn was on the faculty of Kenyon College. He is a consultant to the Federal Departments of Defense and Energy and is currently completing a new study of proliferation for the Twentieth Century Fund. He holds a B.A. degree from Cornell and a Ph.D. degree from the University of Chicago.

LIEUTENANT GENERAL JOHN H. ELDER, JR., USA (Retired). General Elder's distinguished career as an Army combat engineer and as a senior staff officer in the Office of the Joint Chiefs of Staff and on the Army Staff culminated in his assignment as Director of Plans and Policy (J-5) in the Office of the Joint Chiefs of Staff. He is a former Director of Plans on the Army Staff, Deputy Director of the Plans and Policy Directorate

(J-5), Executive Officer for the Chairman of the Joint Chiefs of Staff, and Army member of the Chairman's Staff Group. He held major engineer field commands in Vietnam and was Chief of Staff of the 7th Infantry Division in Korea. A combat engineer in Europe during World War II and in the Korean War, General Elder is a graduate of Virginia Polytechnic Institute, the Command and General Staff College, and the Army War College.

DR. HAROLD A. FEIVESON, Assistant Professor of Public and International Affairs, Woodrow Wilson School, Princeton University. Dr. Feiveson's career has spanned several positions of responsibility in education, government, and business. Prior to his current position at Princeton, he was a founding member of the Princeton Center for Environmental Studies, doing research on strategic arms control and environmental problems, and a Research Associate of the Princeton Center of International Studies. Dr. Feiveson has also worked in the Science Bureau of the US Arms Control and Disarmament Agency, as a Ford Foundation consultant, and as a research scientist for Hughes Research Laboratories. Dr. Feiveson's many publications include *Nuclear Proliferation*, a book which he coauthored in 1977. His master's and doctoral degrees are from Princeton University.

DR. ELLEN L. FROST, Deputy Assistant Secretary of Defense (ISA), for International Economic Affairs. Prior to her assignment in the Department of Defense, Dr. Frost served as Deputy Director of the Office of Trade Policy and Negotiations in the Treasury Department, as a Foreign Affairs Officer in the same office, and as a Foreign Affairs Officer in the Treasury Office of Development Policy. She is a former Legislative Assistant to Senator Alan Cranston and before coming to Washington, she taught at Wellesley College and Harvard University. Dr. Frost received her bachelor's degree from Radcliffe College, her master's degree from the Fletcher School of Law and Diplomacy, Tufts University, and her doctorate from Harvard University.

DR. ALTON FRYE, Washington Director and Senior Fellow, Council on Foreign Relations. Dr. Frye has been a staff member of the Rand Corporation and has taught at both Harvard University and UCLA. A frequent consultant to both the legislative and executive branches of government, he served as staff director for Senator Edward W. Brooke and has written and lectured widely on foreign and domestic policy issues, including problems of strategic arms and the role of Congress. A charter Fellow of the Woodrow Wilson International Center for Scholars, he received his Ph.D. from Yale University.

HONORABLE JOHN H. GLENN, United States Senate. Senator Glenn's distinguished military career was crowned in 1962 when he became the first American to achieve orbital space flight as the Project Mercury pilot of the Friendship Seven space capsule. He holds a number of other world aviation distinctions and military honors, having served as a combat pilot in World War II and Korea and as a military test pilot. After his retirement from the Marine Corps as a lieutenant colonel, he entered the corporate world as vice president for corporate development with the Royal Crown Corporation and was elected to the United States Senate from Ohio in 1975.

MR. DAVID C. GOMPERT, Deputy Director, Bureau of Politico-Military Affairs, US Department of State. Prior to assuming his present position, Mr. Gompert was Director of the Office of International Security Policy in the Bureau of Politico-Military Affairs. He spent 2 years as a Senior Fellow with the 1980's Project with the Council on Foreign Relations. He served on the National Security Council staff, and was Special Assistant to

Secretary of State Henry A. Kissinger, participating in numerous diplomatic missions. Mr. Gompert is a graduate of the United States Naval Academy and received a master's degree in international affairs from Princeton University.

MR. ALLAN E. GOODMAN, Central Intelligence Agency. A former Chairman of the Department of Government and International Relations, Clark University, and a National Fellow at the Hoover Institution on War, Revolution and Peace at Stanford, Mr. Goodman is a specialist on the political and economic impact on international relations of developments in the Third World. He is a Professorial Lecturer on the Theory and Practice of International Negotiations at the Georgetown School of Foreign Service and a specialist on Southeast Asia.

DR. COLIN S. GRAY, Political Scientist, Hudson Institute. A former Assistant Director of the International Institute for Strategic Studies, London; a Ford Fellow in the Department of War Studies, King's College, London; and Executive Secretary of the Strategic and International Studies Commission, Canadian Institute of International Affairs, Dr. Gray specializes in strategic studies, foreign policy and international relations theory. He has taught in Canada and Great Britain, written widely, and done significant research in national security affairs and foreign policy. He studied at Manchester University and earned his doctorate in international politics at Oxford.

MR. STEPHEN J. HADLEY, Associate, Shea & Gardner, Attorneys at Law. Before joining Shea & Gardner, Mr. Hadley was a staff member in the Office of Program Analysis, National Security Council. While with the National Security Council, he chaired working groups concerned with the United States' negotiating positions in the MBFR talks in Vienna, the prospects for United States/Soviet naval arms limitations in the Indian Ocean, US force structure in Europe, US defense posture, and the nonproliferation of nuclear weapons. A former defense issues analyst in the Office of the Assistant Secretary of Defense (Comptroller), he received his bachelor's degree from Cornell University and his law degree from the Yale University Law School.

DR. JOHN HARDT, Senior Specialist in Soviet Economics, Library of Congress. Dr. Hardt's distinguished career is characterized by intensive involvement over the last quarter century in all aspects of the Soviet economy. He was for many years associated with the Research Analysis Corporation and with the Operations Research Office of Johns Hopkins University, where he headed the Strategic Studies Division. He is a former editor of the Bulletin of the Association for Comparative Economic Studies and a former president of the Washington Chapter of the American Association for the Advancement of Slavic Studies. He holds bachelor's and master's degrees from the University of Washington, a master's degree and a certificate from the Russian Institute of Columbia, and a doctorate in Soviet economic studies from Columbia University.

MR. E. C. M. HIGGINS, Assistant to the President, Science Applications, Inc. (SAI). Prior to assuming his present position, Mr. Higgins' distinguished career with the United States Navy included service on the National Security Council (NSC) as national security analyst for the President and the Assistant to the President for national security affairs, and as an analyst of US defense programs and weapons systems for the Secretary of Defense. Currently, he is assisting in the management of SAI's Theater Warfare Program and is personally responsible for research projects on specific aspects of theater warfare. He is a graduate of the US Naval Academy and earned his master's degree in business administration (with distinction) from the Harvard Business School.

REAR ADMIRAL ROBERT P. HILTON, United States Navy, Director, Strategy, Plans and Policy Division, Office of the Chief of Naval Operations. Prior to assuming his present position, Admiral Hilton was Director, East Asia and Pacific Region, Office of the Assistant Secretary of Defense (ISA). During his distinguished naval career his assignments have included tours of duty with the Joint Chiefs of Staff, service in the office of the Chief of Naval Operations, and duty with the 2d, 6th, and 7th Fleets. Admiral Hilton holds a BA degree from the University of Mississippi, an MA degree in Russian affairs from Georgetown University and is a graduate of The National War College.

HON. JEANNE M. HOLM, Major General, United States Air Force (Retired), Defense Advisory Committee on Women in the Services. At the time of her retirement as the highest ranking woman to serve in the US Armed Forces, General Holm was the Director of the Air Force Personnel Council in the Office of the Secretary of the Air Force. She served as the Director, Women in the Air Force from 1965 to 1972 and in March 1976 was appointed by President Ford as his Special Assistant to the President for Women. Currently, in addition to her duties as a member of the Defense Advisory Committee on Women in the Services, General Holm is speaking, writing and consulting in the areas of women's rights, national defense and manpower issues.

MR. JAMES L. HOLT, Deputy Program Manager for Materials and Resources, Office of Technology Assessment, US Congress. Mr. Holt is responsible for overall program development and assessment in the area of foreign and domestic policies and issues related to materials and natural resources. He has been active in the policy analysis field in the private sector prior to his current government service and has also worked as a Senior Staff Analyst for the State of Maryland. He is currently completing his doctoral work in public policy administration at the University of Maryland.

BRIGADIER KENNETH HUNT, Director, The British Atlantic Committee. Having pursued a highly successful and honorable career as a soldier, Brigadier Hunt is enjoying an equally distinguished career as a specialist in the area of international affairs. He has served as Deputy Director, International Institute for Strategic Studies, London; as a Visiting Professor, Fletcher School of Law and Diplomacy; and as a specialist adviser on defense and external affairs to the House of Commons. A noted author, editor and broadcaster, Brigadier Hunt holds the Military Cross and is a member of the Order of the British Empire.

HON. WILLIAM G. HYLAND, Georgetown Center for Strategic and International Studies. Mr. Hyland was Chief of Staff for Soviet and Far Eastern Affairs on the Board of National Estimates before joining the National Security Council staff at the White House as Staff Member for Soviet and European Affairs in 1969. In 1974 he was appointed Director of the Bureau of Intelligence and Research at the State Department. In 1976 he returned to the White House as Deputy Assistant to the President for National Security Affairs. Mr. Hyland, now retired as Director of European and Soviet Affairs on the NSC staff, is a respected analyst of strategic systems and has participated for many years in US-Soviet arms control negotiations. He has a master's degree from the University of Missouri and has done other post-graduate work at American University.

DR. EDWARD R. JAYNE, II, Associate Director for National Security and International Affairs, Office of Management and Budget. Dr. Jayne has combined distinguished combat service with the United States Air Force with broad experience in the executive branch of the government. As a White House Fellow he served as Special Assistant to the Director of the Council on International Economic Policy. Later, he was a member of

the National Security Council staff, and assisted in the Carter administration transition. He is a graduate of the United States Air Force Academy, and received a doctorate in political science from the Massachusetts Institute of Technology where he studied as a National Science Foundation Graduate Scholar.

DR. AMOS A. JORDAN, Georgetown Center for Strategic and International Studies. Until recently Deputy Undersecretary of State for Security Assistance, Dr. Jordan has also served as Principal Deputy Assistant Secretary of Defense for International Security Affairs and in a series of senior politico-military positions. He is a former Professor of Social Sciences at West Point, Director of the Aspen Institute for Humanistic Studies and is a retired Brigadier General, US Army. Dr. Jordan holds bachelor's and master's degrees from Oxford, where he studied as a Rhodes Scholar, and a doctorate in international relations from Columbia University.

MR. PHILIP A. KARBER, Assistant Vice President (National Security Programs), BDM Corporation, and Project Director, Office of the Secretary of Defense, Net Assessment Office. Mr. Karber was responsible for all aspects of Project 186—NATO and Warsaw Pact capabilities—in the Net Assessment Office and he has served as a consultant with the Center for Strategic and International Studies at Georgetown University. The author of several articles on defense policy and weapons systems, Mr. Karber received his bachelor's degree from Pepperdine College and his master's degree from Georgetown University, where he is a Ph.D. candidate in international relations.

DR. CATHERINE M. KELLEHER, Associate Professor of Political Science, University of Michigan. Dr. Kelleher has been a member of the National Security Council staff; a faculty member at Barnard College, Columbia University, and the University of Illinois at Chicago Circle; a Research Fellow at the International Institute for Strategic Studies; and a Research Associate at Columbia University and Harvard University. She is the author of numerous articles on national and European security, arms control and defense manpower issues. Dr. Kelleher received her bachelor's degree from Mount Holyoke College, her doctorate in political science from the Massachusetts Institute of Technology, and studied at the Free University of Berlin and at Harvard University.

MR. CROSBY M. KELLY, Vice President (Communications), Rockwell International Corporation. Mr. Kelly has held senior management positions with Litton Industries in international relations, public affairs and corporate communications, and operated his own international management consulting corporation for several years. He has worldwide responsibility for Rockwell's public relations, advertising, employee communications and public affairs and has a wide background in industry and management. He has received international recognition for his participation in global councils and conferences and is a member of the corporate operations committee of Rockwell.

DR. GEOFFREY KEMP, Associate Professor of International Politics, the Fletcher School of Law and Diplomacy, Tufts University. Professor Kemp currently teaches and writes on defense and security matters at the Fletcher School of Law and Diplomacy, concentrating on the military policies of less-industrialized countries, geopolitical and economic factors in international security, and the emerging maritime environment. He has served as a policy analyst in the Office of the Assistant Secretary of Defense, International Security Affairs, and as a consultant to the Department of Defense and the United States Senate Committee on Foreign Relations. He received his undergraduate education in economics and politics at Oxford University, and received a doctorate in political science from the Massachusetts Institute of Technology.

HON. RICHARD T. KENNEDY, Nuclear Regulatory Commission. Deputy Assistant to the President and Director of National Security Planning when named to the NRC in 1975, Commissioner Kennedy had been a staff member of the National Security Council since 1969. He is a retired Army officer whose military career had been focused heavily on international affairs and strategic planning. He was graduated with a degree in economics from the University of Rochester and has a master's degree from the Harvard Graduate School of Business Administration. He is also a graduate of The National War College.

MAJOR GENERAL MILTON E. KEY, United States Army, Deputy Assistant to the Secretary of Defense (Atomic Energy). General Key's distinguished military career spans assignments in artillery, in various command and staff assignments overseas, and as a member of the Joint Staff. He was Chief of the Nuclear Activities Branch, Operations Division, Supreme Headquarters Allied Powers Europe, before assuming his present duties in 1977. He is a graduate of the University of Oklahoma, the Armed Forces Staff College, and The National War College.

DR. ROBERT A. KILMARX, Director of Business Research, Georgetown Center for Strategic and International Studies. Dr. Kilmarx is a specialist in the fields of national security and raw materials and heads the Center's program on investment in the extractive industries in developing countries. He has served as an adviser in this field to the Presidential Commission on Procurement and to the United Nations. He is a former Special Adviser to the Assistant Chief of Staff for Intelligence, USAF, and has recently been Professorial Lecturer at the George Washington University School of Business and Public Administration.

DR. WILLIAM R. KING, Professor of Business Administration at the Graduate School of Business, University of Pittsburgh. Dr. King has served as a consultant to a wide variety of business firms, government agencies and congressional committees. He is the author of a major study of the proposed Defense Officer Personnel Management Act, and under the auspices of the United States Senate Budget Committee, he conducted a landmark study of the All-Volunteer Military and reported his findings in extensive testimony before the Senate Armed Services Committee. Dr. King is the author of eight books and numerous technical papers in systems analysis and management science. He received his bachelor's degree from Pennsylvania State University and his master's degree and doctorate from Case Institute of Technology.

DR. FRITZ G. A. KRAEMER has served the government in an advisory capacity for a generation. He holds doctorates in law from the University of Frankfurt and in political science from the University of Rome and has attended the University of Geneva, the London School of Economics and the University of Berlin. A graduate of The National War College, he won a battlefield commission in the Infantry during World War II at the age of 37.

DR. DALIMIL KYBAL, Assistant Director for Research, Development and Program Coordination, Federal Preparedness Agency. Dr. Kybal is a distinguished political and military analyst and a noted specialist in weapons systems evaluation. He is a former Head of the Preliminary Missile Design Group at MIT and as Deputy Assistant Director for Weapons Systems Evaluation, Air Force Directorate of Development Planning, he supervised studies in the area of strategic and tactical air defense. During his 18 year association with Lockheed Missile and Space Company, he served as a scientist and special assistant to

the President. Dr. Kybal has lectured at universities in the United States and abroad, has published papers on military and scientific affairs. His B.S., M.S., and A.E.D. degrees are from the California Institute of Technology.

MR. BENJAMIN S. LAMBETH, Senior Staff Member, Social Science Department, The Rand Corporation. In his work at The Rand Corporation, Mr. Lambeth has concentrated on United States and Soviet strategic programs, policies and doctrine, and on various aspects of Soviet tactical air doctrine. He is a former member of the Central Intelligence Agency staff in the Office of National Estimates and the Office of Political Research. Mr. Lambeth has written extensively on strategic issues and is coauthor of *The Soviet Union and Arms Control: A Superpower Dilemma*. He received his bachelor's degree in political science from the University of North Carolina, his master's degree in government from Georgetown University, and is a doctoral candidate at Harvard.

MR. JOHN LATSHAW, Executive Vice President, E. F. Hutton Company. Mr. Latshaw is a nationally recognized authority in banking, over-the-counter stock transactions, and acquisitions and mergers; his opinions have been widely quoted in national publications. He has been a member of the executive committee and the governing board of E. F. Hutton since the firm of Ullman and Latshaw merged with Hutton in 1954, and a vice president since 1962 when the company was incorporated. He is a distinguished graduate of the University of Missouri, which has honored him for his service in the business community, and he makes his home in Kansas City, Missouri.

MR. ERNEST S. LEE, Director, Department of International Affairs, AFL-CIO. Mr. Lee has broad experience in organized labor in international affairs. He established a Western Hemisphere Office of the International Federation of the Commercial, Clerical and Technical Employees organization and worked in organizing white collar unions in Latin America. He has served as International Affairs Director of the Retail Clerks International Association, AFL-CIO. He is a member of the Board of Trustees of the American Institute for Free Labor Development, of the Bureau of Labor Statistics Advisory Committee, and is on the Executive Committee of the National Committee for Employer Support of the Guard and Reserve. He is also a member of the Advisory Board of the Center for Strategic and International Studies of Georgetown University and is a graduate of the University's School of Foreign Service.

DR. HERBERT S. LEVINE, Professor of Economics, University of Pennsylvania. Dr. Levine is a distinguished scholar and specialist in Soviet economics, who has lectured at Princeton, Harvard, Columbia and the London School of Economics. He is a consultant to the Department of State and to the Stanford Research Institute and chairman of the American Council of Learned Societies-Social Science Research Council Joint Committee on Soviet Studies. Dr. Levine received his bachelor's and master's degrees and his doctorate from Harvard University.

MR. WILLIAM S. LIND, Legislative Assistant, Armed Services Committee, US Senate. In addition to being a widely published author of works on military affairs, Mr. Lind has during his tenure in the US Senate assisted in preparation of the Taft White Paper on Defense and in the development of Senator Taft's concept of a New Technology Navy. Graduating Phi Beta Kappa, magna cum laude, from Dartmouth in 1969, he received a master's degree from Princeton in 1971 and is currently a Ph.D. candidate.

MAJOR GENERAL HARRISON LOBDELL, JR., Commandant, The National War College. General Lobdell's extensive operational and professional background includes numerous command and staff assignments in tactical reconnaissance and aviation training. Most recently he was Director of the European Policy Section, Office of the Assistant Secretary of Defense for International Security Affairs. Prior to that time he had served as Inspector General of the Air Training Command and Deputy Chief of Staff for Plans at Air Force Headquarters in Europe. A graduate of the Military Academy, the Army Command and General Staff College and the Air War College, he holds a master's degree in international affairs from George Washington University.

MR. JAN M. LODAL, Executive Vice President, American Management Systems Inc. As the Director of Program Analysis on the National Security Council, Mr. Lodal was the primary White House staff officer under Dr. Kissinger on arms control matters from 1973-75. He has participated in arms control negotiations in Moscow and at the Helsinki and Vladivostok summit conferences, and has a wide civilian background in corporate financial management consulting. He is a member of the Council on Foreign Relations and the American Economics Association and has written extensively on systems analysis and on arms control issues. He has a degree in engineering from Rice University and two master's degrees from Princeton University.

DR. EDWARD N. LUTTWAK, Associate Director, Washington Center of Foreign Policy Research, Johns Hopkins University. Dr. Luttwak is a distinguished scholar and former Department of Defense consultant who is the author of several widely read books on the strategic balance, the political uses of sea power, the Israeli Army and other national security affairs issues.

MR. ANDREW W. MARSHALL, Director of Net Assessment, Office of the Secretary of Defense. Mr. Marshall has been a member of the Gaither Committee, the McCloy Arms Control Panel, the US Delegation to NATO and a consultant to the Office of Management and Budget. He was also a consultant to the National Security Council and Director of the Net Assessment Group in the White House in 1972-73. He has published in the areas of systems analysis, strategic policy and intelligence and holds a master's degree in economics from the University of Chicago.

DR. FREDERICK J. MILFORD, Associate Director for Research, Battelle's Columbus Laboratories. In addition to a highly successful career with Battelle in the area of research program management, Dr. Milford has also been a visiting Professor of Physics at the University of Washington, and a member of the Visiting Committee of the Harvard University Division of Engineering and Applied Physics. The coauthor of the successful textbook, *Foundations of Electromagnetic Theory*, he is active in professional organizations. Dr. Milford received a B.S. degree in physics from Case Institute of Technology and holds a Ph.D. degree from Massachusetts Institute of Technology.

MR. EUGENE J. MILOSH, Vice President, US-USSR Trade and Economic Council. With offices in New York and Moscow, Mr. Milosh has a broad background in marketing in Eastern Europe, specifically involving patent licensing, advertising, public relations and market research. In his 12 years with Union Carbide Corporation, he managed large US trade exhibitions in Moscow in 1965 and in 1970. He now directs the operations of an association of over 200 US member firms dealing with the Soviet Union. He is a certified public accountant with degrees in economics and chemistry and has a master's degree in international economics.

DR. ROBERT H. MOORE, Emerging Issues Systems Coordinator, The Conference Board, and Director of Government Relations for Benefacts, Inc. Dr. Moore has been a staff consultant to the United States Senate Armed Services Committee and to various members of Congress. He is coauthor of *School for Soldiers: West Point and the Profession of Arms*, selected by the *New York Times* as one of the Books of the Year in current affairs for 1974. Prior to joining Benefacts, he was on the Graduate Faculty at the University of Maryland. Dr. Moore is a graduate of Davidson College, received a master's degree from the University of North Carolina and his doctorate from the University of Wisconsin.

DR. THEODORE H. MORAN, Policy Planning Staff, US Department of State. In his present position Dr. Moran is responsible for energy policy, international investment issues, Persian Gulf questions and nuclear proliferation. He is the author of publications on multinational corporations and the international political economy and since 1973 has served on the faculty of The Johns Hopkins School of Advanced International Studies. He has a doctoral degree in government from Harvard University.

DR. JAMES A. NATHAN, Associate Professor of Political Science, University of Delaware. A former United States Foreign Service Officer, Dr. Nathan has written numerous articles for professional journals on international affairs, American politics, diplomacy, naval policy and education. He is the coauthor of three books on international education, United States foreign policy and sea power. Dr. Nathan received his bachelor's degree from Indiana University and his master's degree and doctorate from Johns Hopkins University, School for Advanced International Studies. He has studied at the University of Madrid, Johns Hopkins University at Bologna, Italy, and the London School of Economics.

HON. PAUL H. NITZE. Mr. Nitze's career of distinguished public service began during World War II, spanned the administrations of many Presidents and culminated in his tenure as the representative of the Secretary of Defense to the US delegation to SALT. During his many years of service he held high offices in the Department of State, served as Assistant Secretary of Defense and Secretary of the Navy under President Kennedy and as Deputy Secretary of Defense under President Johnson. Currently he is Chairman of the Advisory Council of The Johns Hopkins School of Advanced International Studies and serves on the Board of Trustees of the University. He also serves on the Boards of Directors of many private corporations. Mr. Nitze is a graduate of Harvard University.

DR. JOSEPH S. NYE, JR., Deputy to the Under Secretary of State for Security Assistance. Dr. Nye has special responsibilities in the field of nuclear proliferation and chairs the Interagency Group on Non-Proliferation and the United States delegation to the London Suppliers Group meetings. He was a member of the Nuclear Energy Policy Study established by the Ford Foundation and was a consultant to the Commission on the Organization of the Government for the Conduct of Foreign Policy. He has been Governor of the Atlantic Institute for International Affairs and a member of the International Institute for Strategic Studies and of the Council on Foreign Relations. He received his bachelor's degree in public affairs from Princeton University, studied at Oxford University as a Rhodes Scholar, and received his doctorate in political science from Harvard University, where he was a professor of government until joining the Federal Government.

DR. JAMES K. OLIVER, Associate Professor of Political Science, University of Delaware. Dr. Oliver has written extensively on national security policy, foreign affairs, the United States Congress and American naval policy. He is the coauthor of three books on United States foreign policy, American naval power and world politics. He received his bachelor's and master's degrees from Florida State University and his doctorate in international studies from the School of International Studies, American University.

MR. RICHARD N. PERLE, Staff Member, Senate Committee on Governmental Affairs. Mr. Perle is a national security advisor to Senator Henry M. Jackson and for many years he has been a leading contributor to congressional and public debate on arms control, East-West trade, arms transfer policy and US-Soviet relations. He has a wide background as a researcher and consultant with industry and with the academic and analytic community, as well as with other governmental groups. He is the author of several publications on national security issues and is a frequent lecturer at colleges and universities. He holds a master's degree from Princeton, where he is a doctoral candidate, and studied at the London School of Economics.

MR. ROBERT B. PIRIE, JR., Principal Deputy Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics). Mr. Pirie was the first Deputy Assistant Director for National Security of the Congressional Budget Office before accepting appointment to his present position. He was a career officer in the United States Navy, serving in nuclear submarines, on the staff of the Secretary of Defense, and on the staff of the National Security Council. Mr. Pirie attended Princeton University and was graduated from the United States Naval Academy. He received bachelor's and master's degrees from Oxford University, where he was a Rhodes Scholar.

DR. GEORGE H. QUESTER, Professor of Government, Cornell University. Dr. Quester is well known for his research and writing on arms control, defense policy and military strategy. His books include *The Politics of Nuclear Proliferation* and *Offense and Defense in the International System*. Prior to joining the faculty at Cornell, he was an Assistant Professor of Government at Harvard, and served as an officer in the United States Air Force. Dr. Quester received his bachelor's degree from Columbia University and his master's and doctorate from Harvard University.

DR. WALT WHITMAN ROSTOW, Professor of Economics and History, The University of Texas. Dr. Rostow has enjoyed a many faceted career as an educator, as a successful author and as a distinguished public servant. As an educator Dr. Rostow has also served on the faculties of Columbia University, Oxford University and Massachusetts Institute of Technology. After duty with the OSS during World War II he joined the State Department and in 1947 became the Assistant to the Executive Secretary of the Economic Commission for Europe. Subsequently, Dr. Rostow served as Deputy Special Assistant for National Security Affairs for President Kennedy and later as Special Assistant for National Security Affairs for President Johnson. The author of many publications in the areas of international politics and economics, he holds bachelor of arts and doctoral degrees from Yale and attended Balliol College, Oxford, as a Rhodes Scholar.

DR. JACK P. RUINA, Professor of Electrical Engineering, Massachusetts Institute of Technology. In addition to his broad experience in teaching and research, Dr. Ruina has served in government as Deputy for Research to the Assistant Secretary of the Air Force, Assistant Director for Defense Research and Engineering, Director of the Defense Advanced Research Projects Agency, and a US Antarctic Observer. He is a former President of the Institute for Defense Analyses and Vice President for Special Laborato-

ries at MIT. He has also served as a member of the General Advisory Committee of the Arms Control and Disarmament Agency, as a Consultant to the National Security Council, and as Chairman of the National Academy of Sciences Committee on Environmental Decision Making. Dr. Ruina received his bachelor's degree from the College of the City of New York and his master's degree and doctorate in electrical engineering from the Polytechnic Institute of Brooklyn.

DR. WARNER R. SCHILLING, James T. Shotwell Professor of International Relations and Director, Institute of War and Peace Studies, Columbia University. Dr. Schilling's distinguished career as a scholar, writer and teacher in international relations includes service as a consultant to the Departments of State and Defense, and to the United States Senate Committee on Government Operations. He has lectured at senior service colleges in the United States and the United Kingdom. He has coauthored several books on international security and defense matters, and is widely published in scholarly journals. Dr. Schilling received his bachelor's and master's degrees and his doctorate from Yale University.

HON. BRENT SCOWCROFT, Lieutenant General, USAF (Retired). General Scowcroft capped a distinguished military career of more than 25 years when he was appointed Deputy Assistant to the President for National Security Affairs in 1973. Following his retirement from the Air Force, he succeeded Dr. Kissinger as Assistant to the President for National Security Affairs and served in that capacity until January 1977. He is a former professor at the Military and Air Force Academies, Air Attache at the US Embassy in Belgrade and has had major policy responsibilities in the Defense Department and on the Joint Staff. He is a graduate of West Point, the Armed Forces Staff College, The National War College and holds master's and doctoral degrees from Columbia.

MS. JOYCE LASKY SHUB, Foreign Policy Advisor to Senator Joseph Biden. Formerly with the staff of the House International Relations Subcommittee on Future Foreign Policy, Ms. Shub began her career as Assistant Editor of the *New Leader*. She was a senior publishing professional before living abroad for 12 years, where she worked for NBC in Moscow and on other assignments in Bonn and Paris. She is a published novelist and was a member of the 1976 congressional delegation which visited China. She is a graduate of Barnard College.

MR. WALTER SLOCOMBE, Principal Deputy Assistant Secretary of Defense (International Security Affairs). In addition to his duties as Principal Deputy Assistant Secretary of Defense (ISA), Mr. Slocombe is Director, Department of Defense SALT Task Force. He has been a Research Associate at the International Institute for Strategic Studies in London, and was a member of the Program Analysis Office of the National Security Council staff. He is a graduate of Princeton University and the Harvard Law School, and was a Rhodes Scholar at Balliol College, Oxford, where he pursued graduate studies in Soviet politics.

MR. LEON SLOSS, Director, Nuclear Targeting Policy Review, Department of Defense. A former Assistant Director of The Arms Control and Disarmament Agency, Mr. Sloss has had extensive and varied service in the State Department, with emphasis on strategic policy, NATO strategy, strategic arms control and defense planning. Between periods of government service, he has been a business consultant specializing in foreign trade and investment, and has also been associated with the Strategic Studies Center of the Stanford Research Institute. Mr. Sloss recently completed a year as a Senior Research Associate at the Georgetown Center for Strategic and International Studies and the

International Institute of Strategic Studies, London. He was Acting Director of the Arms Control and Disarmament Agency from January 20 to March 10, 1977.

LIEUTENANT GENERAL W. Y. SMITH, USAF, Assistant to the Chairman, Joint Chiefs of Staff. General Smith is a combat veteran of the Korean War and has served in a number of high-level positions during his distinguished career in the Air Force. He has served as Director of Policy Plans and National Security Council Affairs, Office of the Assistant Secretary of Defense for International Security Affairs; as Director of Doctrine, Concepts and Objectives, Office of the Deputy Chief of Staff, Plans and Operations, Headquarters, US Air Force; Commander of the Oklahoma City Air Logistics Center; and Military Assistant to the Secretary of the Air Force. General Smith holds a doctorate in political economy and government from Harvard University.

DR. TIMOTHY W. STANLEY, President, International Economic Policy Association. Dr. Stanley served for a number of years in the US Government, including the Office of the Assistant Secretary of Defense for International Security Affairs and the White House staff. He was Defense Advisor to the United States Diplomatic Mission to NATO, with the rank of Minister, and Special Representative of the Arms Control and Disarmament Agency in Vienna. He is a Director of the Atlantic Council of the United States, a member of the Council on Foreign Relations, the International Institute for Strategic Studies, and also heads the International Economic Studies Institute. He has taught at Harvard and George Washington Universities, and was Visiting Professor of International Relations at the Johns Hopkins School of Advanced International Studies. He holds a B.A. from Yale University and L.L.B. and Ph.D. degrees from Harvard University. He is the author or coauthor of a half dozen books and of numerous articles and monographs. A veteran of two tours of military duty, Dr. Stanley has also received the Defense Department's Distinguished Civilian Service medal.

DR. JEREMY STONE, Director, Federation of American Scientists. Dr. Stone directs a federation whose membership includes over 7,000 scientists and over half of the American Nobel laureates. He has been associated with Stanford Research Institute, the Hudson Institute, the Harvard Center for International Affairs and was a Fellow at the Council on Foreign Relations before accepting his present position. A mathematician by training, Dr. Stone is the author of two books on arms control and is a graduate of Swarthmore College.

GENERAL MAXWELL D. TAYLOR, USA (Retired). General Taylor's distinguished career of public service includes more than 30 years as a soldier at the top of his profession, close advisor to two Presidents, diplomat, scholar and author, and since leaving government he has served as a director of several corporations. He commanded the 101st Airborne Division in its campaigns in Europe during World War II and was 8th Army Commander and later, Commander in Chief, Far East, during the Korean War. He is a former Chief of Staff of the Army, Chairman of the Joint Chiefs of Staff and Chairman of the President's Foreign Intelligence Advisory Board. He was the United States Ambassador to Vietnam from July 1964 to July 1965. General Taylor is retired and lives in Washington, D.C.

DR. JAMES A. THOMSON, Security Analysis Group, National Security Council staff. Dr. Thomson is a specialist in NATO defense, arms control issues, and general defense policy and program matters. Prior to his appointment to the National Security Council, he was a staff analyst in the Office of the Assistant Secretary of Defense for Program Analysis and Evaluation, concentrating on US defense policy in Europe. He is a widely read

author of numerous articles on nuclear physics in scientific journals. Dr. Thomson received his bachelor's and master's degrees and his doctorate in Physics from Purdue University, and did post-doctoral research at the University of Wisconsin.

DR. ROBERT H. TRICE, JR., Assistant for Negotiations, Office of the Assistant Secretary of Defense (ISA). Currently on assignment with the Department of Defense from the Department of Political Science, Ohio State University, Dr. Price is addressing the issues of technology transfer, US conventional arms transfer policy and US nonproliferation objectives. His past research has focused on the Arab-Israeli conflict and US national security policy. A graduate of the College of William and Mary, Dr. Trice received master's and doctoral degrees from the University of Wisconsin.

DR. CARL WALSKÉ, President and Chief Operating Officer, Atomic Industrial Forum, Inc. Prior to joining the Atomic Industrial Forum, Dr. Walske served as principal staff officer and advisor on nuclear matters to four Secretaries of Defense and was responsible for liaison with the Atomic Energy Commission and the Joint Congressional Committee on Atomic Energy. He served in the Atomic Energy Commission as Scientific Representative in the United Kingdom and as Senior Scientific Advisor on the United States delegation to the nuclear test ban conference in Geneva, Switzerland. Dr. Walske received his bachelor's degree in mathematics from the University of Washington and his doctorate in theoretical physics from Cornell University.

HON. SEYMOUR WEISS, The Abington Corporation. Ambassador Weiss' career in government includes service in the Department of State, the Agency for International Development and the Office of Management and Budget. He is a former Deputy Director of the Policy Planning Staff and Director of the State Department's Bureau of Politico-Military Affairs. From 1974 to 1976 he was United States Ambassador to the Bahamas. He has been awarded the Secretary of State's Award of Outstanding Service and the Department of Defense Medal for Distinguished Public Service. Ambassador Weiss is a Professor at the University of Miami Center for Advanced International Studies and is a member of the Chief of Naval Operations Executive Panel. He received a master's degree in international relations from the University of Chicago.

MAJOR GENERAL JASPER A. WELCH, JR., USAF, Assistant Chief of Staff (Studies and Analysis), United States Air Force. General Welch's distinguished career as a military scientist, analyst, planner and manager has included assignments in weapons design, space physics, strategic policy and program analysis. He has held posts of progressively increasing responsibility within the defense scientific and analytic community and has frequently been called upon to consult with private industry on the peaceful uses of nuclear technology. He is the author of numerous articles and papers and is a member of the American Physical Society, the American Geophysical Union and the Council on Foreign Relations. General Welch holds a doctoral degree in physics from the University of California at Berkeley.

DR. SAMUEL F. WELLS, JR., Secretary, International Studies Program, Woodrow Wilson International Center for Scholars. Dr. Wells' distinguished career as an historian has emphasized American foreign relations, economic diplomacy, arms control and national security policy. Prior to joining the Wilson Center he was Associate Professor of History at the University of North Carolina. He has received a number of fellowships and currently holds a Ford Foundation grant for research in international security. He received a bachelor's degree in history from the University of North Carolina, and a master's degree and a doctorate in history and international relations from Harvard University.

MR. RICHARD L. WILLIAMSON, JR., Chief, Nuclear Exports Division Non-Proliferation Bureau, Arms Control and Disarmament Agency. Mr. Williamson is a career Foreign Service Officer, on loan to the Arms Control and Disarmament Agency from the Department of State. His service in the Department of State includes concentration on European security and disarmament issues, and he has served as Counsellor and Executive Director of the American Foreign Service Association. He received his bachelor's degree from the University of Southern California, and his master's degree in international relations from American University.

DR. CHARLES WOLF, JR., Head of the Economics Department and Director of the Rand Graduate Institute, The Rand Corporation. Dr. Wolf has served with the Department of State, the Economic Cooperation Administration and the Foreign Operations Administration, and joined the Rand Corporation in 1955. He is widely published on economics and international problems. His work at the Rand Corporation has concentrated on economic development, international economic policy, technology exchange, force structure analysis, and overseas basing. He is co-chairman of the California Arms Control and Foreign Policy Seminar, and a member of a number of economics and foreign policy associations. He was graduated from Harvard College and received his master's degree and doctorate in economics from Harvard University.

DR. THOMAS W. WOLFE, Senior Staff Member, Rand Corporation. A retired Air Force colonel, Dr. Wolfe's military career included assignments at the American Embassy in Moscow, as a member of the Coolidge Committee for Disarmament Review and as a staff officer with the Joint Chiefs of Staff. He was Director of the Sino-Soviet Affairs Branch on the staff of the Assistant Secretary of Defense (ISA) and participated as an advisor at the McCloy-Zorin talks in Moscow in 1961. He is a Professorial Lecturer at George Washington University and has lectured and written widely on Sino-Soviet affairs and strategic issues. He has a master's degree from the Russian Institute at Columbia and a doctorate from Georgetown University.

DR. PAUL D. WOLFOWITZ, Deputy Assistant Secretary of Defense for Program Analysis and Evaluation. Prior to his recent appointment, Dr. Wolfowitz served for several years in the Arms Control and Disarmament Agency where he held senior positions as Special Assistant for SALT, Deputy Assistant Director for Verification and Analysis, and as Special Assistant to the Director. He is a former Assistant Professor at Yale University and has worked as a consultant with the Rand Corporation and on the program evaluation staff of the Bureau of the Budget. He holds master's and doctoral degrees in political science from the University of Chicago.

MR. ADAM YARMOLINSKY, Counselor, The Arms Control and Disarmament Agency. A prominent lawyer-educator with a distinguished background in government service, he has served as a Special Assistant to the Secretary of Defense, as a Deputy Director of the President's Anti-Poverty Task Force, as Chief of the Emergency Relief Mission to the Dominican Republic and as Principal Deputy Assistant Secretary of Defense for International Security Affairs. He has taught at several institutions of higher learning and was educated at Harvard and at the Yale Law School.

DR. DOV S. ZAKHEIM, Principal Analyst, Congressional Budget Office. Dr. Zakheim is a distinguished economist, who while a Research Fellow at St. Antony's College, Oxford University, was associated with a London bank and lectured on comparative politics and international finance to various American collegiate programs in Britain. His research and publications address naval and other national security issues, European politics, the

Atlantic relationship, and British finance. He earned his B.A. at Columbia University, New York, where he graduated summa cum laude and was a member of Phi Beta Kappa. He spent his junior year as a student at the London School of Economics, financed by a Columbia College scholarship. He studied at St. Antony's College, University of Oxford, as a National Science Foundation Graduate Fellow and then as a Columbia College Kellett Fellow, earning his D. Phil. in 1974.

RAPPORTEURS

DR. JOHN N. ELLISON, Professor of Resource Management, Industrial College of the Armed Forces. Dr. Ellison is a specialist in economics, management and executive development in both the public and private sectors. He is a former consultant in economics and international business matters in Washington, DC, and San Juan, Puerto Rico, and has served as the Chief Economist to the US-Puerto Rico Commission on the Status of Puerto Rico, and is the Principal Economic Advisor to the New Progressive Party in Puerto Rico. Dr. Ellison has lectured on economics and business administration at George Washington University, the University of Southern California, and Loyola College in Baltimore. He received his bachelor's and master's degrees from Virginia Polytechnic Institute and State University and his doctorate in business administration from George Washington University.

COLONEL F. WHITNEY HALL, JR., USA, Military Faculty, The National War College. Colonel Hall teaches and does research in civil-military relations at The National War College. He is a former Assistant for Vietnam in the Office of the Assistant Secretary of Defense (International Security Affairs) and action officer for international and civil affairs on the Army Staff in the Pentagon. He is a graduate of the United States Military Academy and received a master's degree in Political Science from Georgetown University. He is a graduate of the Armed Forces Staff College and is currently a Faculty Research Fellow at The National Defense University.

LIEUTENANT COLONEL NEAL E. LAMPING, USAF, Senior Research Fellow, National Defense University. Lieutenant Colonel Lamping has a broad professional background which includes assignments in several major Air Force operational commands and duties in research and development, security assistance and foreign military sales. He is a specialist in nuclear weapons effects and air defense improvement planning. He holds a bachelor's degree in geology from Notre Dame, a master's degree in geodetic sciences from Ohio State, another master's degree in business administration from Auburn and a doctorate in geophysics from Texas A&M University.

COLONEL DANIEL K. MALONE, USA, The Joint Staff. Colonel Malone has had a wide military background in ordnance, research and development, operations research and intelligence. He served 2 years in Moscow with the Defense Attache and was most recently Chief of the Soviet and Warsaw Pact Current Intelligence Branch of the Defense Intelligence Agency. He is a graduate of the United States Military Academy and holds a master's degree from Syracuse University. He is completing a Senior Research Fellowship at The National Defense University.

COLONEL JOEL M. McKEAN, USAF, Air Staff, Pentagon. Colonel McKean is a former strategic policy planner in the Strategic Negotiations Division, J-5, in the Office of the Joint Chiefs of Staff, where he served as advisor to the JCS Representative to the Strategic Arms Limitations Talks and as the JCS Representative to the Standing Consultative Commission. He has been Branch Chief, Future Force Structure Analysis and Evaluation at Strategic Air Command headquarters. He was graduated from Gettysburg College and received his doctorate in Mathematics from the University of Pittsburgh. He is a graduate of The National War College and a recent Senior Research Fellow of The National Defense University.

Guests of the Conference

Major General Theodore Antonelli, USA
Commandant

Industrial College of the Armed Forces

Lieutenant General J. H. Elder, Jr., USA (Ret)

Lieutenant General Raymond Furlong, USAF
Commandant, The Air University

Ambassador Robert W. Komer
Advisor to the Secretary of Defense

Major General Harrison Lobdell, Jr., USAF
Commandant, The National War College

Major General R. H. Schoeneman, USAF
Commandant, The Air War College

Honorable Brent Scowcroft
International Six, Inc.

Lieutenant General William Y. Smith, USAF
Assistant to the Chairman
The Joint Chiefs of Staff

General Maxwell D. Taylor, USA (Ret)